

**Is health care seeking behaviour affected by response to
chest pain amongst South Asians and Whites?**

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Abstract

Coronary heart disease (CHD) is the leading cause of death in the UK. Despite this declines in death rates have been experienced within the UK since the 1970's but these declines have not been experienced by South Asians. Studies on access have highlighted inconsistencies between South Asians and Whites.

The present study was conducted to explore factors which may affect health care seeking behaviour following symptoms of angina amongst South Asians and Whites. 40 face to face interviews were conducted using a purposive sample from a quantitative survey (Chaturvedi et al, 1997). This sub-sample consisted of White and South Asian male and female participants aged between 35-55 years. A further 4 focus groups were conducted with another purposive sample of White and South Asian males and females aged between 35-55 years. This second sample was selected using the same sampling frame (Chaturvedi et al, 1997). Focus groups were only conducted with those participants who had not taken part in the individual face to face interviews. The individual face to face interviews consisted of 10 South Asian male and 10 South Asian female participants and 10 White male and 10 White female participants. The focus groups consisted of 5-6 participants each. The focus groups were homogenous for ethnicity and sex. The epistemological framework used to guide the analysis was social constructionism.

Results indicated that trust was an important factor which affected health care seeking behaviour amongst South Asians and Whites. South Asians had high trust of their GP, were over reliant on the GP and had lower expectations following chest pain. White participants had low trust of their GP, were less reliant on the GP and had high expectation following symptoms of chest pain. Issues of trust affected response to

symptoms of angina, with Whites stating that they were less likely to delay seeking health care during an acute crisis compared to South Asians who stated they would phone the GP for advice before going to A&E.

Conclusion

Access to appropriate health care following chest pain is likely to result from patient related factors which include response to chest pain, expectation from the health service following chest pain and most importantly an overly trusting GP patient relationship.

Dedicated to Amardeep, Anoop, Jeeven and Dhiaan

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Chapter 1 - Introduction

1.1 Background

Cardiovascular disease (CVD) is the main cause of death within the UK. In 2008, 191,000 deaths were attributed to CVD (National Statistics 2010). Coronary heart disease (CHD) and stroke are the predominant forms of CVD, with UK data showing CHD as a leading cause of death, accounting for over 88,000 deaths in 2008 (National Statistics 2010). Almost 28,000 premature deaths in 2008 could be attributed to CHD equating to 18% of premature deaths amongst males and 9% of premature deaths amongst females (National Statistics 2010). Since the late 1970's there has been a decline in UK death rates from CHD, with a 44% fall in death rates over the last 10 years amongst people under the age of 75 years. Recent UK trends have shown a faster decline in death rates amongst older people aged 55+ years and slower decline for younger people aged 35-44 years. UK Reports show a 49% decline in death rates from CHD between 1998 and 2008 amongst males aged 55-64 years. In contrast for the same period there was only a 26% decline in death rates from CHD amongst males aged 35-44 years. Similar results were reported for females with a 55% decline amongst the older age group of 55-64 years and little decline amongst the younger age group of 35-44 year olds (Allender et al 2008). Unal et al (2004) carried out a British study to explain declines in mortality from CHD over the last 20 years. They analysed data on risk factors for CHD, as well as uptake and effectiveness of cardiological treatments from 1981 and 2000 for England and Wales. The authors concluded that between the 1980's and 1990's in Britain, 58% of declines in mortality from CHD could be attributed to reducing risk factors such as smoking and the remaining 42% decline in mortality could be attributed to better treatment (Unal et al 2004).

Such a decline in death rates from CHD has not been experienced evenly across different ethnic groups. Following migration in the early 1950's and 1960's it became apparent that there was a higher susceptibility for heart disease amongst South Asians (Indians, Bangladeshi's, Pakistani's and Sri Lankans) (Allender et al 2007), especially for those living in urban areas (Bhopal 2004b). Past studies looking at census data have reported higher death rates from CHD amongst South Asians (Balarajan 1991, Marmot et al 1984, Wild & McKeigue 1997). Present figures have confirmed a similar pattern with higher premature death rates from CHD amongst South Asians living in Britain (Allender et al 2006). Data show a 46% higher premature death rate compared to Whites amongst South Asian males and a 51% higher premature death rate compared to Whites for South Asian females. These differences in death rates are increasing amongst South Asians in comparison to the rest of the population because the rest of the population has experienced a faster fall in death rates compared to South Asians (Allender et al 2007, Petersen et al 2004a). Mortality data for CHD from 1971 to 1991 amongst the whole population show a 29% decline in death rates amongst males aged 20-69 years and a 17% decline amongst females in the same age group. This pattern was distinctly different amongst South Asians as they only experienced a 20% mortality decline amongst males aged 20-69 years and a 7% decline amongst females (Wild & McKeigue 1997).

Despite the potential to prevent the majority of CHD cases and the continual developments and improvements in treatment for it, a large proportion of the population is still dying from myocardial infarctions (heart attack) which is the most acute form of the disease. Therefore it is important to consider the risk factors associated with heart disease (Petersen et al 2004a, Allender et al 2007). Risk factors

for CHD include, gender, poor diet, lack of exercise, smoking, habitual alcohol consumption, ethnicity, age and family history (Davidson 1998). In view of these risk factors, studies reporting higher prevalence of CHD amongst South Asians (Balarajan et al 1984, Shaukat et al 1993) are unexpected since the traditional lifestyle of South Asians is associated with abstention from smoking (particularly for females and Sikhs) and a vegetarian diet (Hindus and Sikhs). Further, in rural India, CHD is not the dominant cause of death (Bhopal 2004b). However, several British studies have confirmed the prevalence of CHD (Balarajan et al 1984, Shaukat et al 1993) and higher incidence of mortality from CHD amongst people of Indian decent (Marmot et al 1984, McKeigue et al 1989, McKeigue 1992). Results have been similar for South Asians living in different parts of the world and have been linked to factors leading to a higher prevalence of diabetes amongst these minority ethnic groups (Bardsley et al 2000).

Of the deaths from heart attacks for all ethnic groups, between a third and two thirds occur outside hospital (UK Heart Attack Study Collaborative Group. 1998, Volmink et al 1998) often occurring within the first few minutes of symptom onset (Department of Health 2000). Hence, prompt response and access to appropriate treatment can mean the difference between life and death for those who have suffered a heart attack (Department of Health 2000).

A symptom, such as general pain, acts as an indicator for patients suggesting all is not well. However, an individual's response to particular symptoms affects their ability to receive appropriate health care. Clearly in order for the doctor to make a diagnosis the first step is for the patient to report the symptoms (Armstrong 2003). It has been

reported that in general, symptoms which are reported as illness tend to be those which occur in a sudden 'striking' way such as a sharp pain in the abdomen or a high temperature (Armstrong 2003). Such symptoms usually have a prompt response and receive medical attention faster than symptoms which are less dramatic in their presentation (Department of Health 2000). In such situations the person may seek care faster to relieve themselves of the pain or because the person has become incapacitated or be suffering from severe discomfort (Armstrong 2003). However, there are a variety of reasons why patients may delay in seeking care immediately. These include fears about symptoms or misinterpretation of ambiguous symptoms. Issues affecting the decision to seek care following ambiguous chest pain symptoms can lead to long delays before calling an ambulance because the sufferer may make light of symptoms. Heart damage will be even worse as a result of such a response if a myocardial infarction has already occurred (Skevington 2001).

Evaluation of the current care provided suggests that there is potential for improvement so that there is less variation in the care provided as well as equal access to care. Presently there are variations in referral rates by ethnicity with South Asians waiting twice as long as Whites to see a cardiologist (Shaukat et al 1993) and for effective treatment to begin (Department of Health 2000). The majority of this variation occurs as a result of peoples failure to reach hospital on time and in hospitals organizing the correct treatment (Birkhead 1999). Thrombolysis is only provided in about a third of A&E departments at present (Hood et al 1998). People with unstable angina are treated and investigated but not necessarily offered treatments shown to reduce risk (Trevelyan et al 2001).

Evidence shows that restoring blood flow through arteries (revascularisation) for people with thrombosis can prevent death (NHS Centre for Reviews and Dissemination. 1997). Coronary artery bypass grafting (CABG) and percutaneous transluminal coronary angioplasty (PTCA) are the two widely used methods for restoring blood flow (Department of Health 2000). Although the UK has higher rates of CHD than other international countries it has lower rates of revascularisation (Meyer et al 1996, Tu et al 1997). This is due to an under-provision of revascularisation services in the UK compared to other countries (Department of Health 2000). Also, people in the UK wait longer to undergo investigations and treatment than other developed countries. Finally, peoples' access to revascularisation services is very unequal (Department of Health 2000). Variations have been reported amongst different ethnic groups (Lear et al 1994, Shaukat et al 1993), geographical locations (Black et al 1996), genders (Spencer et al 1995) and have not been found to correlate with need in the population (Black et al 1995). Differences in access may occur at any stage in the chain of care such as primary care, referral to hospital, referral to community health services or in the treatment received once referred. A variety of interdependent causes for these variations have been suggested including variations in the likelihood of patients being referred to a cardiologists and cardiac surgeon as well as variations in the specialists threshold for further investigation and treatment. A marked variation in NHS investment into cardiac services also accounts for revascularization differences observed (Black et al 1995).

Reports highlighting disparities in access to revascularisation services including South Asians having to wait twice as long to receive thrombolytic therapy compared to Whites (Lear et al 1994, Shaukat et al 1993) led to a quantitative study by

Chaturvedi et al (1997) to explore whether these differences were indeed related to South Asians being more stoic about chest pain symptoms or whether there were differences in interpretation and health care seeking amongst this group. However findings were surprising and unexpected since results showed that South Asians were in fact more anxious about chest pain and were more likely to seek immediate care following chest pain symptoms compared to their White counterparts (Chaturvedi et al 1997).

1.1.2 Summary

Heart disease affects a large proportion of the British population. However, despite a decline in mortality rates amongst the White population, such declines have not been experienced by the South Asian population, who have had an increase in death rates from CHD. Revascularisation has been reported to prevent death (NHS Centre for Reviews and Dissemination. 1997). However, due to delays in referral (Lear et al 1994, Shaukat et al 1993) only half the South Asians admitted to coronary care units have been reported to receive revascularisation compared to their White counterparts.

From the extensive literature review conducted, none of the studies added significantly to the work of Chaturvedi et al (1997) in terms of explaining specific ethnic differences in delays in receiving coronary care following angina symptoms. The aim of the present qualitative study was to explore perceptions about heart disease and to develop an overall understanding about the decision making processes which affect health care seeking behaviour amongst Asians and Whites following hypothetical chest pains and to add depth to the findings of Chaturvedi et al (1997).

1.2 Review outline

The following chapter will present a review of the relevant background literature. A brief overview of the nature of heart disease and a description of treatment for myocardial infarction with specific information relating to the impact of delays to treatment for thrombolysis is contained in Appendix 1. Details are presented here of the demographic profile of South Asian communities in the UK. Risk factors for heart disease including diet, physical activity, alcohol consumption and smoking are also described. The impact of pain behaviour and factors which contribute to seeking health care and treatment including the effect of age, gender, socioeconomic status, ethnicity and patient related factors on prehospital delays. The final part of the review considers access to cardiology services in terms of socioeconomic status, gender, ethnicity and how these relate to communication issues.

Chapter 2 - Literature Review

2.1 British South Asians

This section of the review will begin by considering the different ethnic minority groups living in the UK. This will be followed by a synopsis of discussions related to ethnic identity and definitions of ethnicity.

2.1.1 Demographic details about the British South Asian population

Table 1 presents results from the 2001 England and Wales census and shows that the population of British South Asians is 2.33 million, constituting 4% of the total UK population. People who are considered 'South Asian' in the UK have a range of ethnic backgrounds and include 1.05 million Indians (1.8% of the England and Wales population), 747, 000 Pakistanis (1.3% of population), 283, 000 Bangladeshis (0.5% of population) and 247, 600 other Asians (mainly Sri Lankans - 0.4% of the population). British Indians are a religiously diverse group consisting of 45% Hindus, 29% Sikhs and 13% Muslims. The Pakistanis and Bangladeshis are more homogeneous in terms of religion, with 92% being of Muslim faith (National Statistics 2006).

Table 1: UK ethnic composition				
Ethnic group		Total population Count	%	% of Minority ethnic population
Level 1	Level 2			
WHITE	WHITE British Irish Other White background	54153998	92.1	n/a
MIXED	MIXED White and Black Caribbean White and Black African White and Asian Other Mixed background	677117	1.2	14.6
ASIAN OR ASIAN BRITISH	ASIAN OR ASIAN BRITISH Indian Pakistani Bangladeshi Other Asian background	1053411 747285 283063 247664	1.8 1.3 0.5 0.4	22.7 16.1 6.1 5.3
BLACK OR BLACK BRITISH	BLACK OR BLACK BRITISH Caribbean African Other Black background	565876 485277 97585	1.0 0.8 0.2	12.2 10.5 2.1
CHINESE OR OTHER	CHINESE OR OTHER ETHNIC GROUP	247403 230615	0.4 0.4	5.3 5.0
		4635296	7.9	100
All minority population		58789194	100	n/a
All population				

(Office of National Statistics 2001)

2.1.2 Educational attainment and occupation amongst South Asians

Significant differences have been reported with regards educational attainment and unemployment between Indians, Pakistanis and Bangladeshis. Academic achievement within schools shows that the highest grades are attained by Indians. In comparison both Pakistanis and Bangladeshis attain much lower grades. College degrees are predominantly obtained by Indians or those of mixed Indian origin than their White counterparts but this pattern changes amongst Pakistanis and Bangladeshis who are less likely to hold a college degree compared to Whites (National Statistics 2005, National Statistics 2006). Education is a good indicator of future employment, income, housing, neighbourhood and working conditions (Lynch et al 2000). Income may be directly associated with material conditions that may affect health outcomes. The implication being that money can buy healthier food, housing within better locations, which in turn would affect transport links, availability of recreational links and ultimately health (Lynch et al 2000). However, ethnic and sex differences may exist in terms of educational achievement and economic returns (Lynch et al 2000, Krieger et al 1997).

Comparable unemployment rates of 7% have been reported between Indians and Whites in the UK. Pakistanis have unemployment rates of 11% but the highest rates of unemployment are reported amongst Bangladeshis with 13-14% without employment (National Statistics 2006). Unemployment has been associated with poor mental and physical health (Acheson 1998, Korpi 2001) and higher mortality rates amongst males and females (Bethune 1996). Results from the Fourth National Survey (Nazroo 1997, Modood et al 1997) reported higher levels of poverty amongst

Pakistanis and Bangladeshis. Poor health outcomes have been associated with poverty (Lynch et al 2000)

2.1.3 Defining ethnicity

There is an on going debate in the UK about how differences between groups should be characterised. A diverse culture lives in the UK and many differences between groups can be observed. However, an important question which arises is with regard these differences and which differences we should pay attention to and how these differences should be characterised. Clearly the approach we adopt will affect the observations we make (Kelleher 1996).

2.1.4 Ethnicity as a social concept

Ethnicity originates from ‘ethnos’, a Greek word meaning a tribe, people or nation (Bhopal 2004a, Senior & Bhopal 1994). Ethnicity has a multifaceted quality, surpassing racial descriptions or genetic groupings but representing comprehensive lifestyle patterns (O’Loughlin 1999, Pearce et al 2004), cultural practices (Bartley 2004, Bhopal 2004a, Nazroo 1998, O’Loughlin 1999, Pearce et al 2004) language (Bartley 2004, Bhopal 1997, Bhopal 2004a, Pearce et al 2004) geographic and ancestral origins (Bartley 2004, Bhopal 1997, Bhopal 2004a), social influence (O’Loughlin 1999), religion (Bartley 2004, Nazroo 1998, O’Loughlin 1999, Pearce et al 2004) as well as health behaviours and health beliefs (Chaturvedi 2001). These characteristics of ethnicity are not fixed or easy to measure but are fluid and imprecise (Bhopal 1997, Bhopal 2004a, Burchard et al 2003, Kelleher 1996, Nazroo 1998,

Senior & Bhopal 1994). Hence there should be an expectation of change within definitions of ethnicity as well as the relevance of certain categories to become more prominent or else to disappear altogether.

Recent research has favoured self definitions of ethnicity (Bhopal 2004a, Bradby 2003). When using self definitions within research, hybrid identities can be expressed with the use of free text responses which avoids the issues relating to imposing a pre-designated classification. However, such an approach within large scale studies involves time consuming processing and within quantitative studies would still entail the eventual recoding of data into fixed response categories to enable those groups to have sufficient statistical power for analysis (Bradby 2003). Fixed response categories or groupings which are presently favoured in UK research are those used in the census, described in table 1, and include, White, Pakistani and Indian. However, immense within-group heterogeneity is hidden within such classifications, which reduces their ability to inform the delivery of health care which is culturally appropriate. It also directly affects the conclusions drawn from research about the causes of ethnic variations in disease. Moreover, self identified ethnic group may not fit within such broad categories (Bhopal 2004a).

Further, others have criticized the crudeness of the way studies have measured ethnicity (Sheldon & Parker 1992, Senior & Bhopal 1994, Sheldon & Parker 1992) with more sensitive measures of ethnicity leading to very different conclusions as to their influence on health and lifestyles (Kelleher 1996, Nazroo 1997, O'Loughlin 1999). For example a study by Bhopal et al, (1999) looking at risk indicators of CHD amongst South Asians and Whites found that initially the whole South Asian group

appeared to have a greater risk. However once the group was broken down into component parts Bangladeshis had the greatest risk followed by Pakistanis and then Indians (Bhopal et al 1999). Hence, the term South Asian does not define one ethnic group but numerous subgroups.

By treating these groups as if they were homogenous, researchers may contribute to the racialisation of health issues (Kelleher 1996, Nazroo 1998). That is the health disadvantage of ethnic minorities becomes identified as an inherent part of their ethnicity, a consequence of their genetic and cultural weakness as opposed to resulting from disadvantage faced by these groups due to perceptions about their ethnicity (Bartley 2004, Kelleher 1996, Nazroo 1998). Further, ethnicity only forms a single element of identity and its significance is dependent upon the context an individual finds him/herself in (Bhopal 1997, Bhopal 2004a, Nazroo 1998, Pfeffer 1998). For example in certain context gender and class may be the more important aspects of identity and hence stand out more than ethnicity (Nazroo 1998).

2.1.5 Ethnicity and race

Race as a concept was first applied to humans in the eighteenth century as an indiscriminate classification to aid the understanding of evolution and to examine variation (Senior & Bhopal 1994). It was used in the biological sciences as one of the divisions of humankind to differentiate physical characteristics (Bhopal 2004a, Senior & Bhopal 1994) or genetic variation between groups (Chaturvedi 2001, Pearce et al 2004). Clearly hair type, skin colour and other physical features are influenced by genetics but we do not know how these genes work or how many of these types of

genes there are (Pearce et al 2004). It is agreed that people cannot be divided into races as a result of genetic differences (Barot 1996) and its use has since been discredited with a clear demonstration that there is small variation between ethnic groups in terms of genetic differences and considerably less than the variation found amongst people from the same 'racial group' (Chaturvedi 2001, O'Loughlin 1999, Pearce et al 2004). Hence racial categorization using these criteria are both misleading and incorrect (Chaturvedi 2001). Instead careful descriptions of geographic origin, ancestry, birthplace, religion, language and migration histories of the population being studied are needed to make ethnic classifications clear (O'Loughlin 1999).

In the UK, 'ethnicity' is the term preferred by researchers describing cultural minority groups, since the term 'race' simply distributes people hierarchically, thus allowing for the justification of exploiting 'inferior races' (Nazroo 1998). Nevertheless, research studies attempting to explain differences in ethnicity and health often use both genetic and cultural explanations (Nazroo 1998). For example, having accounted for standard risk factors associated with CHD, researchers have gone onto suggest that any further ethnic differences for CHD are the result of genetic (race) or cultural (ethnicity) differences associated with being South Asian (Gupta et al 1995). Such research approaches lead to the racialisation of health policies focussed on the need for minority groups to change their old cultural habits and take on new lifestyles in order to improve their health (Bartley 2004, Nazroo 1998)

2.2 The Global burden of CHD

The Global burden of disease study (Murray & Lopez 1996) and the World Health Report (1999) have drawn attention to the growing burden of non-communicable disease such as CVD, cancers, diabetes and chronic obstructive pulmonary disease. These non-communicable diseases are determined by lifestyle factors such as smoking, physical exercise, tobacco consumption and diet. Approximately half the global mortality results from these diseases and a smaller proportion, due to middle and old age onset of such diseases are responsible for 19% of the global burden of disease. Of all the deaths and disability life years lost (DALYS) in 1998, approximately 30.9% and 10.3% respectively could be attributed to CVD (The World Health Report 1999).

The World Health Organisation (WHO) estimated that of the 58 million worldwide deaths in 2005, 17.5 million could be attributed to cardiovascular disease (World Health Organisation 2005). The disease burden of CHD and stroke is expected to increase by 120% in women and 137% in men from 1990 – 2020 in developing countries compared to developed countries where the increase is only expected to be 30% - 60% (Murray & Lopez 1996).

2.2.1 Coronary heart disease amongst South Asians

Since the 1950's and early 1960's there has been increased awareness that people of Indian decent are more susceptible to cardiovascular diseases following migration to urban areas (Allender et al 2006, Bhatnagar et al 1995, Bhopal 2004b). South Asian

migrants develop CHD at a younger age, with men developing it before the age of 40 years (Enas et al 1996) and experience increased CHD mortality rates of 1.5 to 4 times higher than the majority populations of the countries they settle in, such as reported from the UK (Enas et al 1992), North America (Enas et al 1992, Sheth et al 1999), South Africa (Adelstein 1963, Enas et al 1992) and Singapore (Enas et al 1992, Mak et al 2003).

Results have shown that migrant South Asians (Balarajan 1991, Marmot et al 1984, Wild & McKeigue 1997) have increased risk of CHD by 40-60% compared to the White population of England and Wales (Allender et al 2006, Bhopal 2004b, Petersen et al 2004a). Given the concentration of South Asian migrants in urban areas, the effects of urban residence are an important consideration within each of these studies, however such increased risks have not been observed amongst other migrant groups who have similar residence patterns such as Afro-Caribbean people (Petersen et al 2004a). Infact death rates from CHD for Caribbean and West Africans are a lot lower than the general population (Allender et al 2006) although Caribbeans and West Africans do have increased risk of stroke (Cappuccio 1997) and higher rates of blood pressure (Chaudhury & Zaninotto 2006) as well as type II diabetes rates which are similar to those of other minority ethnic groups (Mindell & Zaninotto 2006). Black Caribbeans and West Africans have more than one risk factor associated with increased risk of CHD. However, studies have shown that they are still less likely to develop CHD and this may be because a different mechanism is operating amongst Black Caribbean and West African diabetics compared to South Asians (Cappuccio 1997).

It has been suggested that there are specific factors which contribute to the increased prevalence of CHD amongst South Asian migrants (Khunti & Samani 2004). The thrifty gene hypothesis has been used to explain such prevalence (Neel et al 1998). This highly debated hypothesis suggests that the protective nature of these genes during times of low calorie intakes before migration become harmful due to the abundance of calorie intakes resulting from a high fat Western diet. As a result of these alleles (any one of the alternate forms of a specified gene) (Larousse 1995), South Asians may be more likely to suffer from important risk factors associated with coronary heart disease such as central obesity, insulin resistance (Khunti & Samani 2004) (the notion that the hormone insulin is required in larger amounts by South Asians for the maintenance of normal blood sugar) (Bhopal 2004b) and diabetes mellitus (Khunti & Samani 2004). The results from The Health Survey for England (2004) may be considered to lend support to this notion since increased prevalence of CVD has been observed between the 1999 and 2004 survey, amongst all ethnic minority groups, with a significant increase observed amongst the Pakistani males, amongst whom prevalence for CVD has doubled (Mindell & Zaninotto 2006). These increases in heart disease were attributed to the increased rates of diabetes amongst ethnic minority groups (Mindell & Zaninotto 2006) as has been reported by others (Mak et al 2003).

Cardiovascular disease is on the increase in developing countries and projections suggest that between 1990 and 2020, 80% of the CVD experienced will be in developing countries (Ounpuu & Yusuf 2003). Mak et al (2003) provided an interesting example of a developing country which has undergone rapid economic and social development, associated with increased CVD (Ounpuu & Yusuf 2003). They

carried out a study in Singapore highlighting ethnic differences between Indian, Malaysian and Chinese inhabitants and their event rates of myocardial infarction and case fatality rates from the year 1991 to 1999 (Mak et al 2003). Overall the study reported that Singapore has experienced a decline in myocardial infarctions, which may be the result of primary prevention strategies (Pasternak et al 1996, Wilson et al 1998). However, a threefold and twofold higher incidence of coronary mortality was observed amongst Indians and Malaysians respectively compared to the Chinese. This high incidence of myocardial infarction amongst Indians was in-part attributed to the higher incidence of diabetes and lower high density lipoproteins amongst this group (Hughes et al 1990, Mak et al 2003). Further due to this higher incidence of myocardial infarction, Indians were more likely to die from such an event than the other ethnic groups. In comparison, Malaysians had the lowest long term survival following a myocardial infarction. Explanations given for such differences were related to social, biological, socioeconomic and cultural factors. That is Malaysians may not be utilising the health care available to them due to their lower educational attainment and lower household income compared to the Chinese and Indians within Singapore (Singapore statistics, 2000). Further, gender differences were also observed in declines of myocardial infarction particularly amongst Indian women (Mak et al 2003) but further investigations were not carried out to explain these differences.

Despite the lack of mortality studies available from India, due to a lack of uniformity in the completion of death certificates, an absence of a central death registry (Ghaffar et al 2004, Reddy 1993) and inaccuracies in disease classification (Gupta et al 2008), a study reported that at least 25% of total deaths in 1990 could be attributed to CVD in India (Murray & Lopez 1996, Murray & Lopez 1996). Further due to increased life

expectancy in India, CHD rates are expected to escalate. During 1951 to 1961 life expectancy in India was 41 years, which has increased to 61.4 years since 1991 to 1996. Projections for life expectancy indicate a further age rise to 72 years by the year 2030, which may be accompanied by large increases in CVD incidence (Reddy & Yusuf 1998). In addition, an increased risk of CHD has been observed in India, resulting from urbanisation (Ghaffar et al 2004, Reddy 1993, Yusuf et al 2001a). Marked increases in energy rich foods, less energy expenditure and a loss of traditional support are associated with urbanisation (Yusuf et al 2001a).

Successive studies have compared risk of CHD amongst Indians living in cities with their counterparts living in rural areas and found increased risk amongst city dwellers (Ahmad & Bhopal 2005, Ghaffar et al 2004, Gupta & Gupta 1996, Singh et al 1997). Nonetheless, due to the transformations taking place in rural areas due to mechanisation in agriculture and the increased use of cars and buses as well as the changing diets in both rural and urban areas (Yusuf et al 2001a) these increased CVD rates may be experienced across India and not just within its urban cities.

A meta-analysis of surveys showed a 9-fold increase of CHD amongst Indians from the 1960's to 1990's in urban areas compared to a 4 fold increase for the same period in rural areas (Gupta & Gupta 1996). However, few of the studies reviewed used the same sampling methods or definitions for CHD (Singh et al 1997, Yusuf et al 2001a) and there was no information regarding the quality of the studies used (Ahmad & Bhopal 2004). Further there is a paucity of large scale studies showing prevalence rates of CHD, electrocardiograph changes or risk factor differences amongst India's rural or urban populations (Singh et al 1997). Singh et al (1997) carried out a study to

look at prevalence of CHD in rural and urban populations of North India. They reported a 9% prevalence of CHD amongst urban Indians compared to 3.3% prevalence amongst their counterparts in rural areas. Further males in urban and rural populations suffered significantly higher rates of CHD than females from both populations. According to Singh et al (1997), differences found could be accounted for by the coronary risk factors found amongst urban populations who had 2 to 3 times more hypertension, diabetes mellitus, obesity, central obesity, hypercholesterolemia and a sedentary lifestyle compared to the rural population. Further Singh et al (1997) suggest that illiteracy and ignorance regarding the lack of reporting of cardiac symptoms may contribute to the higher prevalence of unreported infarctions and angina. However, the age group of Singh et al's (1997) study was above 49 years making it difficult to compare these findings with others. Of the studies reported, diversity amongst ethnic sub-groups was not considered; however, the population of India is not homogenous and consists of Hindus, Sikhs, Muslims and Christians. Hence ethnic sub-group differences could not be determined from these studies.

2.2.2 Summary

Cardiovascular disease is a global problem affecting South Asians across the world. Migration has been considered as a factor affecting the cardiovascular health of South Asians but such effects have not been experienced by all migrant groups (Petersen et al 2004a). Modernisation has affected dietary intakes, encouraged more sedentary lifestyles in rural and urban areas (Yusuf et al 2001a) and brought about both social and economic change (Mak et al 2003), factors which have all been considered as

affecting CVD risk (Yusuf et al 2001b, Yusuf et al 2001a, Ounpuu & Yusuf 2003). Cardiovascular disease prevalence is expected to double between 1990 and 2020 (Ounpuu & Yusuf 2003) especially within developing countries. Some of this increase has been attributed to ageing populations within these countries where previously life expectancy was much lower. Other factors adding to this disease burden are related to specific risk factors such as diabetes, central obesity and insulin resistance, conditions which are more common amongst South Asians.

2.3 Risk factors for coronary heart disease

2.3.1 Introduction

Coronary heart disease is not caused by a single risk factor but a whole range of risk factors. Individuals with more than one risk factor are more likely to develop coronary heart disease than those with no risk factors. Risk factors associated with coronary heart disease are divided into modifiable risk factors where risk factors can be reduced through behavioural changes and non-modifiable risk factors where nothing can be done. Modifiable risk factors include, diet including raised cholesterol, lack of exercise, high blood pressure, obesity, stress, smoking, alcohol consumption, diabetes. Non-modifiable risk factors include heredity (an inherited high cholesterol level), age and gender (Davidson 1998).

2.3.2 Diet

A fundamental and modifiable environmental factor contributing to around 30% of deaths from coronary heart disease is diet (Petersen et al 2004a). The process of atherosclerosis is determined by the foods individuals consume as is the potential for the formation of a thrombus (Mervyn 1990). Expert bodies have identified dietary changes which would reduce CHD rates within the UK. It has been confirmed that a diet low in saturated fats and salt (INTERSALT Cooperative Research Group, INTERSALT 1988, Law et al 1991, Primatesta & Sproston 2000) but rich in fruit and vegetables (Petersen et al 2004a, World Health Organisation 2004) can lower blood pressure which is an important risk factor for CVD (Appel et al 1997). The consumption of green leafy vegetables and fruit and vegetables high in vitamin C have been reported as being particularly protective from CHD (Joshi et al 2001).

Certain single dietary components (such as fat) associated with increased CVD are well established but CVD risk predictions may be improved upon if dietary patterns including complex nutrients and non-nutrients are considered (Kant et al 2000, Kerver et al 2003) since they reflect the diets in the real world where people eat whole meals consisting of a variety of nutrients and not isolated nutrients (Hu et al 2000). Kerver et al (2003) identified high risk and low risk groups in the USA by looking at dietary patterns. A diet including processed meats, red meats, eggs, and high-fat dairy products was characteristic of high risk Western diets associated with CVD. A low fat American diet consisted of green leafy vegetables, salad dressings, tomatoes and other vegetables (Kerver et al 2003). Similar results have been reported in large scale cohort studies, where lower mortality was reported amongst males (Hu et al 2000) and

females who consumed a diet of fruit, vegetables, lean meat, whole grains and low fat dairy products (Kant et al 2000).

2.3.2.1 Dietary habits of the British South Asian community

Different cultural and religious beliefs encourage different dietary patterns amongst Britain's South Asian community. Orthodox Hindus are strict lacto-vegetarians which means that they do not eat any meat, fish or eggs (Qureshi 1990). Muslims do not eat pork or pork products and alcohol is strictly forbidden (Qureshi 1990). Sikhs have few prohibitions with regards diet; however they usually do not eat beef in respect of their Hindu forefathers. The most commonly eaten meat is chicken or lamb; fish and pork are also eaten and most dairy products are important such as milk, yogurt and panir (homemade cheese) (Qureshi 1990).

To date no large scale surveys have focussed specifically on the dietary patterns of South Asians or determined the extent to which South Asians have maintained these traditional diets (Hirani & Primatesta 1999). Most studies including the Health Survey for England (Craig et al 2006, Primatesta & Sproston 2000) have considered the intake of individual nutrients and their effect on CVD. A qualitative study of six focus groups with South Asians (Farooqi et al 2000) reported that traditional diets have been maintained. However, maintenance of the traditional diet was dependent upon preferences (Farooqi et al 2000), access to previously eaten foods as well as influence of the British diet (Hirani & Primatesta 1999). Previous reports have suggested that the dietary intake of fat and fibre found in the traditional diets of Black, Indian, Pakistani and Bangladeshi people are closer to those recommended for a healthy heart

than that of British diets (Health Education Authority 1991, Hill 1990, Jarvis 1986). However, the younger generation may be more inclined to make dietary changes and adopt more British diets which in turn may make them more susceptible to the associated risk factors for CVD and diabetes (Primatesta & Sproston 2000).

The higher mortality rates from CHD amongst South Asians cannot be explained by dietary intakes alone (Primatesta & Sproston 2000). The few dietary explanations that have been provided are inadequate and potentially out of date since the focus is on practices such as the use of ghee (Jacobson 1987, Nath & Murthi 1988). However, Farooqi et al (2000) found that although many South Asians have adopted healthier approaches to cooking curries, others have not and are not willing to change as they prefer the taste. Farooqi et al's (2000) work is one of the few which has looked at attitudes to risk factors for coronary heart disease. The study treated the South Asian group as a homogenous group although the focus groups consisted of Hindus, Sikhs and Muslims and the dietary habits of these groups are distinctly different. A recent, small scale study was carried out which compared the diets of Italians and South Asians with the general British population (Andersen et al 2005). Results showed that in comparison to the general population the South Asian diet consisted of more total and saturated fat and the Italian diet maintained protective nutrients for CVD risk. The study reported that the traditional South Asian diet had been adapted to include fat and sugar products from the Western diet. These results indicate that the 'new' adapted South Asian diet is unhealthier and may increase CVD risk but the authors did conclude that the diet of subsequent generations may be healthier. Despite the findings from this study, results have to be considered with caution due to the very small sample size (total number of participants - 105). Findings from Patel et al

(2006) may add support to these findings. A comparative study between Gujaratis in India and migrant Gujaratis in the UK was carried out to look at dietary changes as a result of migration. The study concluded that CHD risk factors prevalent in the British Gujarati community could be attributed to a higher fat intake and obesity amongst this group in comparison to their counterparts in India (Patel et al 2006).

Primatesta and Sproston (2000) reported marked variations in dietary intake amongst different ethnic groups in the UK, highlighting the heterogeneity of these groups.

Amongst Bangladeshi males and females there was a higher intake of fried foods and red meat than amongst other minority ethnic groups. There were also marked differences in the amount of fat consumed amongst this group. More Bangladeshi males (22%) and Irish males (21%) compared to Indian males (11%) had high fat scores which were calculated using a food frequency questionnaire. These differences were also apparent between Bangladeshi females (27%) and Indian (8%) females (Primatesta & Sproston 2000). However, the 2004 Health Survey for England confirmed that overall fat consumption amongst males from ethnic minorities was lower than males in the general population. The lowest fat intakes were reported amongst 89% Indian, 86% Chinese and 86% Black African males (Craig et al 2006). Similar results were reported for females. Despite more females (84%) from the general population having a lower fat intake than their male counterparts (72%), females from ethnic minorities including Bangladeshis had even lower fat intakes (Craig et al 2006). Comparable findings have been reported more recently in the annual CHD statistics by the British Heart Foundation where South Asians have been reported to have lower fat intakes than their White counterparts (Scarborough et al 2010)

The 2005-2007 Family Food Survey concluded that Asians consumed less fruit and vegetables than Whites. However the non-White diet overall is considered healthier (Department for the Environment 2008). Marked differences in fruit consumption have also been reported amongst Bangladeshi adults with only 15% of males and 16% of females having a fruit intake six or more times each week. Further the lowest levels of vegetable consumption of six or more per week, was reported amongst 7% of Pakistani males and 11% of Pakistani females (Craig et al 2006). However, from 1999 to 2004 there have been changes in fruit and vegetable consumption reported in the Health Survey for England (Craig et al 2006, Primatesta & Sproston 2000) amongst South Asians. South Asian males and females were reported to be more likely than the general population to consume the recommended 5 or more portions of fruit and vegetables per day. However salt in-take was much higher amongst ethnic minorities compared to the general population although a reduction in the salt consumed had been observed between 1999 (Primatesta & Sproston 2000) and 2004 (Craig et al 2006) in the Health Survey for England. Nevertheless, more recently the Office for National Statistics (2010) has reported that South Asians consume about half as much salt as Whites.

A diet characterised by high levels of meat consumption is likely to have increased fat and total fat intake and is of particular importance when considering the incidence of CVD. As a result it has been suggested that dietary control may be vital for reducing incidence of heart disease amongst South Asians (Davey Smith et al 2000). However those attempting to suggest such changes need to be aware of the heterogeneity of these groups as highlighted by these findings (Craig et al 2006, Primatesta & Sproston

2000) and others where dietary intakes have been found to differ by religious group (Lip et al 2007, Qureshi 1990).

2.3.3 Physical Activity

Increased levels of physical exercise have been attributed to a reduction in coronary heart disease (Fentem 1994, Petersen et al 2004b, Teers 1999) and all cause mortality (Andersen et al 2000, Barengo et al 2004, Schnohr et al 2003, Teers 1999, World Health Organisation 2002). Reports have shown that a physically active lifestyle promotes lower heart rate and lowers blood pressure (U.S Department of Health and Human Services 1996, Berlin & Colditz 1990, Barengo et al 2004). This has beneficial effects since the heart does not have to work as hard for any given exercise (Fentem 1994).

In order for people to attain the maximum benefit derived from sport, the sports activity needs to be aerobic and carried out regularly (Petersen et al 2004b). The recommended daily amount of exercise for adults by the government since 1996 is 30 minutes of moderately intense exercise, on a minimum of 5 days a week (Department of Health 2000, Petersen et al 2004a) in order to reduce coronary heart disease, diabetes and obesity (Department of Health 2000). These recommendations have been supported by a large scale prospective observational study which separately analysed different forms of daily physical exercise and concluded that daily occupational physical activity and moderate and high leisure time physical activity are associated with reduced CVD and all cause mortality (Barengo et al 2004). However the study did have limitations since physical activity and other mortality predictors were only

assessed at the beginning of the follow up as a result of the size of the study. Hence the obtained results may have been affected by individual changes in the level of activity taken during the follow up period (Barengo et al 2004). Nevertheless, others have reported similar findings with leisure time activity having beneficial effects on all cause mortality (Andersen et al 2000, Schnohr et al 2003).

Results from a sub-sample of respondents from the Health Survey for England (2008) who were asked to use an accelerometer, which measures acceleration of a moving person, showed that government recommended physical activity levels were only met by 4% of women and 6% of men (Department of Health 2010). In contrast self reports of physical activity were much higher with 29% of women and 39% of men reporting that they were physically active. These findings suggest that self reports of physical activity may be inaccurate. However, self report remains the main method of assessing levels of physical activity (Department of Health 2010).

2.3.3.1 Physical activity amongst British South Asians

Recommended physical activity rates have been reported as lower amongst South Asians compared to Whites (Fischbacher et al 2004, Hayes et al 2002, Stamatakis 2006). Dhawan and Bray (1997) carried out a small scale study of Indian South Asians (Asians living in India), British South Asians (Asians who had been residents in the UK for more than 22 years) and British Whites. Results showed that the Asians living in India lead more physically active lives than their British counterparts (South Asians and Whites) and had lower risk for coronary heart disease (Dhawan & Bray 1997). These results were supported by the work of others who carried out a study in

rural India and reported similar results (Jajoo et al 1988). South Asian participants in a qualitative study by Farooqi et al (2000) felt that they were unable to participate in sport due to cultural barriers, suggesting physical activity was not appropriate culturally or that, for women, barriers existed due to a lack of female-only exercise sessions. Others have reported similar results amongst diabetic South Asians in Edinburgh (Lawton et al 2006). Results showed that although South Asians were aware of the benefits of physical activity for their diabetes, they did not take more exercise despite their GP recommending it. Cultural and language barriers meant that females in particular found exercising difficult since they did not want to go and swim or do other exercise with males. Other barriers related to the belief amongst males and females that their diabetes weakened their body. Further there was fatalism reported in terms of participants having control over their health and hence exercise would not necessarily be viewed as beneficial (Lawton et al 2006).

Farooqi et al (2000) and Lawton et al (2006) described the populations in their study as homogenous in terms of their cultural views. Farooqi et al (2000) did not indicate the different religious affiliation or country of birth for identification of subgroups, making it difficult to tease out any cultural differences between groups. However Lawton et al (2006) did state that a much larger proportion of respondents were Pakistani (n=23) and the remainder Indian (n=9) but presented results as homogenous.

In light of this evidence the results of lower physical activity (Stamatakis 2006) amongst South Asians compared to the general population may be less surprising. However, heterogeneity was reported amongst South Asians with increased activity rates reported amongst Indian females from 1999 to 2004 (Stamatakis 2006). In terms

of sport and exercise, despite the lower rates of participation in sport compared to the general population, there were marked differences in the amount of sport undertaken between ethnic groups with more Indians (27%) than Pakistanis (16%) and Bangladeshis (12%) partaking in sport (Stamatakis 2006). These results are supported by a cross sectional survey in Newcastle consisting of 741 participants (416 Whites and 325 South Asians) (Hayes et al 2002). The South Asian group was broken down into Indian, Pakistani and Bangladeshi. As in previous studies (Dhawan & Bray 1997, Erens et al 2001) South Asians (Dhawan & Bray 1997, Erens et al 2001) and in particular Pakistanis and Bangladeshis were less physically active than Whites (Hayes et al 2002).

A more recent study using data from the Health Survey from England (1999-2004) to compare physical activity levels between South Asians and Whites aged 18-55 years has been conducted (Williams et al 2009). Results showed that lower levels of physical activity were reported amongst South Asians compared to Whites regardless of age, sex, subgroup and type of physical activity. Williams et al (2009) performed an age group analysis and reported that levels of physical activity were low across all age groups. However they also showed heterogeneity in exercise profiles amongst South Asians with Bangladeshis and Pakistanis taking part in less physical exercise than Indians supporting the work of others (Stamatakis 2006).

Despite considering the effects of urbanisation and psychological distress as a contributory factor for South Asians being less physically active, the study concluded that ethnicity remained the most significant influence on physical inactivity (Williams et al 2009). As a result the authors suggested culture may need to be taken

into consideration to explain difference between physical activity and ethnicity. The authors reported that South Asians born in the UK were more physically active than those born outside the UK. These findings suggest that acculturation may affect activity levels indicating that future generations who are less traditional may adopt more active lifestyles (Williams et al 2009). However Owen et al (2009) have reported lower physical activity levels amongst South Asians aged 9-10 years old compared to Whites and Blacks (Owen et al 2009). There are limitations to the study by Williams et al (2009) since a self report questionnaire was used and people may have overestimated the levels of physical activity as suggested elsewhere (Department of Health 2010). Further the self report questionnaire had not been validated using a South Asian population. However Williams et al (2009) used resting heart rate and compared it with physical activity heart rate and felt confident that the questionnaire was a valid tool.

2.3.4 Alcohol Consumption

Although moderate consumption of alcohol has been considered as reducing CHD risk (British Heart Foundation 2004), binge drinking (regular sessions of heavy beer drinking) has been reported to increase the risk of CHD and increase risk of death independent of the total average consumption of alcoholic drinks (Kauhanen et al 1997). Thus increased mortality rates from all causes and especially cardiovascular causes have been linked to heavy alcohol consumption (Dyer et al 1990, Klatsky et al 1990, Klatsky et al 2003).

Results from the Health Survey for England (2004) show that 45% of males from the general population exceed the recommended levels of alcohol consumption of 4 units in comparison to 30% of females in the general population who exceed more than 3 units on their heaviest day (Becker et al 2006). In terms of comparing results from 1999 and 2004 (Health Survey for England) there was no change amongst males but there was an increase in binge drinking amongst females in the general population from 12% to 14% (Becker et al 2006).

2.3.4.1 Alcohol consumption amongst British South Asians

South Asians are less likely to drink excessively in comparison to the general population and are more likely to be non-drinkers, with the largest proportion of non-drinkers found amongst Pakistani and Bangladeshi adults (89% males, 95% females and 97% males and 98% females respectively) (Becker et al 2006). More Indian males (22%) and Indian females (8%) drank in excess of 4 and 3 units respectively in the week prior to interview (Becker et al 2006). These results are probably due to religious restrictions on alcohol consumption amongst Pakistani Muslims and Bangladeshi Muslims. When comparing results from the 1999 survey with 2004, results showed that in 1999, 5% of Indian females drank in excess of 3 units and in 2004 this figure had increased to 8% amongst Indian females (Becker et al 2006).

2.3.5 Smoking

In the UK, smoking accounted for up to 30,600 deaths from CVD in 2000. This attributed to 1 in 8 deaths from CVD and 1 in 5 premature deaths for that year (Peto et

al 2004). Further exhaled smoke or second hand smoke has been reported to cause a 25% increased risk of CHD (He et al 1999, Law et al 1997, Petersen & Peto 2004). A 40 year cohort study amongst British Doctors reported a 50% higher CHD mortality rate amongst smokers than non-smokers. Mortality rates from CHD were 75% amongst the heaviest smokers. However a 60% mortality rate or 85% mortality rate was reported from all CVD amongst smokers and heavy smokers respectively (Doll et al 2004).

In Britain results from the Health Survey for England showed 24% of males and 23% of females in the general population were cigarette smokers (Wardle 2006). However, the recent prohibition of smoking in public spaces within the UK has reduced smoking prevalence rates, particularly amongst the young (Scarborough et al 2010).

Smoking prevalence has been shown to be more widespread in manual and routine occupations than amongst professional groups. In 2008 of those living in Britain, 29% of people who worked in manual or routine occupations smoked compared to 14% in managerial or professional occupations (National Statistics 2009).

2.3.5.1 Smoking prevalence amongst British South Asians

Although smoking rates have been shown to be lower amongst South Asians there are distinct differences between ethnic sub-groups. Bangladeshi males (40%) have the highest smoking prevalence compared to other South Asians and the general population. In comparison only 20% of Indian and 29% of Pakistani males reported

that they were smokers. The South Asian female group was quite homogenous as they were all less likely to smoke than the general population (Wardle 2006).

Different smoking prevalence rates were reported amongst the general population and South Asian males depending upon age. Higher rates of smoking were found amongst the younger age group of 16-34 in the general population with prevalence reducing with age. However smoking prevalence among South Asian males increased at older ages (35-54 years) which is an important difference considering the increased risk of CHD with age (Wardle 2006)

Further despite a lower prevalence of smoking amongst all sub-groups of South Asian females compared to White females, 16% of Bangladeshi females chew tobacco. This is an important variable, contributing to sub-group differences amongst the South Asian females and the increased risk factor amongst Bangladeshi women which had not been noted when considering smoking alone. Further, Bangladeshi males also reported a 9% prevalence of chewing tobacco. Since Bangladeshi males already have high prevalence of smoking, tobacco chewing adds to the risk of CHD even though a significant drop in tobacco chewing was reported amongst Bangladeshi males and females from 1999 to 2004 (Wardle 2006). However, studies have reported that respondents may underestimate their true cigarette smoking prevalence (Colletti et al 1982, Coultas et al 1988) and this was evident from saliva cotinine samples amongst Bangladeshis. Hence although self-reported tobacco use amongst Bangladeshi males was 44% and 17% amongst females results of cotinine levels indicated that 60% of males and 35% of females amongst this group actually used tobacco products (Wardle

2006) which supports the view that studies looking at self-reported smoking status need to use other methods to validate the results (Pearce & Hayes 2005).

2.3.6 Summary

The modifiable risk factors described amongst South Asians and Whites show that the marked variations between the South Asian sub-groups are affected by cultural and religious values. Such cultural beliefs clearly have an effect on use of sports facilities, alcohol consumption, smoking prevalence and dietary intake amongst South Asian groups and need consideration. Further some religious taboos promote a healthier lifestyle with South Asians consuming less alcohol than the general populations and Indians smoking less than the general population (Wardle 2006).

The following section will discuss pain behaviour before discussing factors which affect health care seeking behaviour. Response to pain is the initial stage before a decision is made to seek health care.

2.4 The impact of culture on the interpretation of pain

2.4.1 Introduction

Pain acts as a ‘signal’ which alerts us to both internal and external problems. This signalling system helps us to protect ourselves from potentially harmful situations (Weinman 1981, Armstrong 2003). Everybody responds to extreme temperatures or sharp objects in a similar manner, making certain types of pain behaviour culture free.

On other occasions a person may suffer ambiguous pain and response may be voluntary, where an individual may ignore or self medicate to relieve themselves of symptoms or seek health care (Weinman 1981). Voluntary pain behaviour and the decision to seek health care are affected by an individual's social and cultural background. Two mechanisms have been used within explanations of pain, which include 'the original sensation and the reaction to the sensation' (Engel 1950). This has been described as pain behaviour regardless of whether response is voluntary or involuntary (Fabrega & Tyma 1976). It is however possible that an individual in pain may not exhibit pain behaviour whilst others may exhibit pain behaviour without pain. Therefore response to pain has been described as 'private pain' or 'public pain' (Engel 1950).

Social, cultural and psychological factors construct the voluntary aspects of pain behaviour. These factors will determine when pain becomes 'pain behaviour' and the form and social setting that this pain is displayed within. Clearly whether a person decides to display pain is dependent upon the type of pain experienced. If an individual views the pain as abnormal they are more likely to display it to others (Zborowski 1952). Zborowski reported that certain cultural groups such as the Polish expected and thus accepted the pain associated with labour. However, this pain was less acceptable in the USA and American women asked for more pain relief during labour. Further, an anthropological study reported that Aborigines suffering long term lower back pain did not make their pain public and did not seek medical care due to their cultural norms and values (Honeyman & Jacobs 1996). The attitudes to pain are likely to be passed on from generation to generation amongst different communities (Zborowski 1952)

The ability to correctly identify symptoms is an important factor when determining an appropriate response to pain and other forms of ill health. Ambiguous symptoms can however be difficult to identify and interpret (Skevington 2001). Acute myocardial infarction has been reported to go without recognition by both patients and GP. Hence the patient may not report the symptoms and the GP may be unable to diagnose the condition appropriately (Thiesen et al 1995). Thus symptoms related to an MI have often been reported as being confused with indigestion or vice versa (Hackett & Cassem 1969).

Recent reports have suggested that previous personal experience of heart disease makes it easier for the sufferer to identify symptoms and encourages them to seek immediate hospital care (Petrie & Weinman 1997). In addition those with a family history of heart disease have been reported to interpret such symptoms more seriously than their counterparts without a history of heart disease, leading to much faster access to appropriate emergency treatment (Hedges et al 1998).

Cultural groups, social groups and families share a 'language of distress'. Idioms are used to make others aware that an individual is in pain. Zborowski (1952) who carried out pioneering work in New York and found that people of American and Irish decent displayed a stoical response to pain or else withdrew from others if symptoms were persistently difficult to bare. In contrast Italians and Jews tended to seek public sympathy for their symptoms as opposed to shunning it away. These cultural and social attitudes towards pain develop during early socialisation. However these notions of early socialisation and response to pain have been challenged (Landy 1977, Pilowsky & Spence 1977, Nayak et al 2000).

Pilowsky and Spence (1977) conducted a study in Australia and concluded that illness behaviour could not be accounted for by socialisation alone. They stated that illness behaviour was affected by immigrant status and the pressure associated with adapting to the majority culture amongst Mediterranean's and Whites (Pilowsky & Spence 1977).

Landy (1977) stated that response to pain was dependent on whether or not displays of emotional expression and response to pain were valued or devalued by a culture. This point has been highlighted in a cross cultural study examining attitudes to pain and reactions to experimental discomfort (Nayak et al 2000). Undergraduates in India and the USA completed a sex appropriate public pain response questionnaire. The study also examined pain tolerance and pain ratings using a cold presser task which involved participants immersing their arms in ice cold water. Male and female Indians immersed their arms in ice water longer than their American counterparts. Unlike Americans, South Asians considered overt expressions of pain inappropriate. The authors suggested that these differences may have occurred because the primary role of the American health profession is to alleviate pain and pain relief is freely available, resulting in the belief that pain does not have to be endured (Nayak et al 2000). However the sample size of the study was small, with just over 100 participants making it difficult to form generalisations. Nonetheless it is worth noting that within a health care system where patients are less tolerant of pain, a more stoic person's ailments may be taken less seriously. Therefore when pain is reported, the culture of the doctor and patient will effect the consultation (Rollman 2004).

Davitz et al (1976) carried out a study looking at interpretation of pain severity amongst 500 nurses in the USA, East Asia and Puerto Rico. Nurses were given brief descriptions of patients and asked to make an assessment about their psychological distress and pain severity. Evidence highlighted ethnic differences in interpretations of pain. A high degree of pain was reported amongst Japanese and Korean nurses and low pain was reported amongst the American and Puerto Rican nurses. These findings suggest less stoicism amongst East Asian people which is contrary to popular belief. The authors concluded that Japanese and Korean nurses looked beyond what they were presented with both verbally or through bodily expression unlike the American nurses who did not consider anything beyond that which they were told. Thus when Japanese or Korean patients seek health care in American hospitals they may receive inadequate treatment for their pain due to cultural differences in the presentation of pain (Davitz et al 1976).

Other studies have also focussed on cultural differences in presentation of pain or psychological problems. It has been suggested that patients use standardised approaches to present pain. This can result in individuals complaining of pain when in fact they are suffering from psychological distress. Studies have shown that low income groups and South Asians are more likely to use this approach when describing psychological problems within Western cultures (Patel et al 2008). Patel et al (2008) carried out a qualitative study amongst White and South Asian GPs in Leicester to explore GPs' experiences of managing chronic pain. South Asians were described as presenting with non-specific pain which was difficult for the GP to diagnose, clarify or manage. Discussions about psychological distress were not undertaken during consultations because the GPs felt that these discussions would detrimentally affect

the GP-patient relationship. However GPs stated that they provided such patients with support instead of pain relief.

Patel et al's (2008) study also highlighted GP stereotypes about 'difficult' patients. A difficult patient was often referred to as 'the South Asian elderly female with chronic pain'. Patel et al (2008) stressed that in-order to achieve good clinical practice, doctors needed to be aware of these perceptions or stereotypes. Nonetheless second and third generation South Asian patients born and educated in the UK were considered easier to manage and treat since they presented their symptoms in a similar manner to Whites. Thus acculturation affected the GPs view of patients in terms of the good patient or the difficult patient. Previous studies have also shown that more acculturated patients display lower incidence of pain (Palmer et al 2007). Finally Patel et al (2008) concluded that consultations are affected positively or negatively depending on the degree to which the culture of the patient and GP is similar or different (Patel et al 2008).

The innovative work of Zborowski (1952) on ethnic and cultural variations in pain experience as well as the increased diversity of populations within society (Keefe et al 2002), has contributed to more recent studies of pain which have monitored ethnic differences in severity and prevalence (Edwards et al 2001). The majority of this work has focused on the experience of Black Afro-Caribbeans and a minority of studies have considered the pain behaviour of South Asians (Njobvu et al 1999). Njobvu et al's (1999) study of pain amongst South Asians in the UK suggested that South Asians reported more musculoskeletal pain and attended medical clinics more frequently.

Hameed and Gibson (1997) carried out a study about pain complaints amongst Pakistanis living in the UK and Pakistanis living in Pakistan. More Pakistani females in the UK reported non-specific musculoskeletal pain and arthritic pain than their counterparts in Pakistan. The colder British climate, having to adjust to life in a new country and a greater willingness to report pain in the UK amongst educated Pakistanis was used to describe these differences by the authors (Hameed & Gibson 1997).

A study of 2000 participants conducted in Singapore explored the effect of ethnic group membership on pain behaviour with particular reference to headaches (Ho & Ong 2001). Results showed that headaches over a lifetime or current headache prevalence were not affected by ethnicity. Intensity and frequency of an average headache was lower amongst Chinese than the Malay, Indian and other groups. The other groups were more likely to have sought medical care for headaches and to have taken sick leave in the previous year because of headaches.

A more recent study indicated that pain is influenced by more than just painful stimulus and should include behavioural and emotional components which are influenced by one's cultural beliefs and values (Lovering 2006). Lovering (2006) reported that the collaborative enquiry group from their study attributed pain to non-medical causes which included the 'evil eye', divine intervention and the supernatural. Hence culture and personal views can exist alongside medical explanations amongst lay people and health professionals (Lovering 2006).

2.4.2 Pain thresholds amongst ethnic minorities

Numerous studies exploring the relationship between ethnicity and pain have focused their attention on pain thresholds including post-operative or laboratory induced pain intensity and health care seeking behaviour. Results considering pain thresholds amongst Black Afro-Caribbeans and South Asians in comparison to Whites have concluded that overall both ethnic minority groups have different pain thresholds to their White counterparts (Njobvu et al 1999). However there also appear to be different pain thresholds between different ethnic minority groups, with different amounts of pain killers such as analgesics needed in clinical studies exploring pain following minor surgery containing individuals with different ethnic backgrounds (Houghton et al 1992, Ng et al 1996).

A study by Houghton et al (1992) concluded that Asian people required less post-operative analgesic following upper abdominal surgery than White people. However pain scores obtained during the study suggest that both ethnic groups reported the same amount of pain experience. Such findings have also been criticised by more recent research suggesting disparities in treatment for pain amongst ethnic minorities can not be explained by differences in need (Ng et al 1996, Todd et al 1993). One explanation given for Houghton et al's (1992) findings were that Asian people were sedated for longer periods following from the initial analgesic and hence did not require any more. Houghton et al (1992) suggested that there is higher pain tolerance amongst Asians compared to Whites. However, other research has suggested that ethnicity affects the type of treatment received (Ng et al 1996, Sheiner et al 1999, Todd et al 1993). The few studies which have looked at ethnic differences in health

care seeking have focused upon interpretation and response to symptoms (Chaturvedi et al 1997) which may not be the only factor affecting pain behaviour.

2.4.3 The impact of ethnicity on the provision of pain relief and treatment

Studies looking at disparities in health care in the USA (Bonham 2001) have indicated that ethnic minorities receive inadequate care compared to the majority culture. A number of factors were considered as contributing to such inequalities including language barriers, stereotypes, poor communication skills, inability to comprehend the patient's expression of pain and distress as well as socioeconomic status.

Earlier studies have focussed on whether ethnicity of patients affects treatment received in medical clinics. Todd et al (1993) looked at the prescription of analgesia using hospital charts at a Los Angeles Trauma Centre. The study was conducted following claims of inequity amongst ethnic minorities in the provision of analgesia. Hispanic and non-Hispanic patient charts were reviewed. Results supported claims of inequalities in the care received by Hispanics as they were less likely to receive any analgesia for leg or arm fractures. A retrospective cohort study of thirty one Hispanics was undertaken following the initial findings. Results showed that more than half (55%) of these patients did not receive any analgesia compared to only 26% of non-Hispanic Whites. Further, when Hispanics were offered analgesia they received lower doses and fewer narcotics were prescribed. The authors stated that it was not possible to decipher the pain and severity of injuries in each case and felt that medical staff may have been unable to identify pain intensity amongst patients culturally different from themselves (Todd et al 1993).

Ng et al (1996) extended the work of Todd et al (1993), concentrating on a larger and more ethnically diverse group of patients admitted to a fracture clinic in San Diego. Patients required hospitalisation since their procedures required surgery, resulting in all patients receiving analgesia. However there were ethnic differences in the amount of analgesia or narcotic drugs given. The higher doses of analgesia or narcotics were administered to the White group, followed by Hispanics and then Blacks. Numerous theories were suggested for these inequalities including how nurses perceived the patients pain and differing demands or expectations of pain control by the patients. The authors concluded that they were not able to determine whether these differences were due to a cultural bias in treatment or a difference in demand by patients.

This question could be explored by considering a study where the care giver is unable to act as a factor in pain control. Ng et al (1996) examined the records of 500 patients who were able to control the amount of analgesia they received following surgery. This is referred to as 'patient controlled analgesia' (PCA). Results showed Black, White, Hispanic and East Asian patients used similar amounts of post-operative analgesia or narcotics for pain relief regardless of ethnicity. However the doctors did order less PCA prescription for the Hispanics compared to Blacks and Whites. The authors concluded that doctors had predicted that White patients would need more pain relief than other ethnic minority groups. They also reported that cultural and language barriers hindered communication, resulting in doctors treating ethnic minority groups differently.

Rathore et al (2001) gave 164 medical students one of two descriptions of patients presenting with angina symptoms. One patient was a 55 year old White male and the

other a 55 year old Black female. Scripts for both patients were identical and both described definite angina symptoms. The students were more likely to diagnose angina for the White patient (72%) than for the Black female (46%). It was not possible to determine if these disparities in diagnosis were due to ethnicity or gender of the participants. However the study results did indicate that cultural training should be included when teaching medical students (Rathore et al 2000).

There is growing evidence that the care of ethnic minority patients may be negatively affected by the ignorance of medical staff and doctors. It has been suggested that such problems can be alleviated by educating staff through the use of information booklets, cultural awareness days and good quality information (Ward et al 2004).

2.4.4 Factors which trigger health seeking behaviour following pain and other symptoms of ill health

Despite recognising that symptoms may be indicative of disease people do not necessarily seek health care or treatment. Numerous factors are considered before people seek care. A study looking at why people eventually seek care identified a process of negotiation which found that something other than the symptoms had to occur before people visited their GP (Zola 1973). Five social triggers were identified which affected symptom assessment and in turn lead to a visit to the GP. These included the:

1. Perceived deduction of the symptoms in terms of a vocational or physical activity. E.g. A broken toe would be difficult for a football player.

2. The effect on personal or social relationships. e.g. A backache may mean that an individual is unable to play basketball or netball.
3. The impact of an interpersonal crisis resulting on symptoms becoming unmanageable. This may act as a trigger for the person to seek care even though they had coped until that stage.
4. Giving symptoms time (temporalising), where the patient sets a deadline for symptoms to disappear. If they do not go away by the set time the patient visits the GP. And finally,
5. Sanctioning , which refers to patients being pressured by family or friends to visit their GP (Zola 1973).

Zola (1973) also found that patients would discontinue with their treatment if, after seeking care, felt that the doctor had not paid sufficient attention to 'why' or the 'trigger' which had caused them to seek health care in the first place.

2.4.5 Summary

The studies reviewed provide evidence of cultural variations in pain experience. There are, however a variety of perspectives on pain behaviour, pain experience, the nature of pain, research setting, measures employed to test pain or variables tested. Samples are frequently small based on convenience samples opposed to the principles employed in epidemiological studies. Many studies are laboratory based where pain is induced whilst other studies include pain which may be chronic or acute. Ethnic differences have been reported using small statistical differences and small sample sizes and data sets (Rollman 2004).

It is often assumed that pain and emotion is expressed in the same way across ethnic groups but there is a lack of understanding between semantics and culture. Thus the experience and response to pain may be different depending on culture (Honeyman & Jacobs 1996). Studies have shown that when a patient and doctor are unable to communicate in the same language (e.g. English) the consultation may be deemed as difficult and may result in negative judgements and stereotypes by the doctor (Patel et al 2008). Misunderstandings as a result of language barriers and cultural differences are said to contribute to inequalities in health care (Bonham 2001).

2.5 Prehospital delays

2.5.1 Introduction

Prehospital delay has been defined as experience of initial symptoms by the patient followed by the time of arrival at hospital (Castiella et al 1997). This prehospital delay time is affected by patient delay time, transport time and the time taken at hospital before admission followed by treatment (Blohm et al 1996, Kainth et al 2004). Thus, time of symptom onset of a myocardial infarction, followed by the time when medical assistance is first considered necessary and then sought is defined as patient delay (Ashton 1999).

2.5.2 Reasons for prehospital delay

Studies which have considered delays in seeking care have focused on sociodemographic and clinical factors. This work has predominantly concentrated on

age, gender, socioeconomic status and ethnicity. Clinical factors include diabetes, cholesterol, family history or previous history of CHD, hypertension, and other related factors. The next section will discuss sociodemographic factors associated with prehospital delays.

2.5.2.1 Age and prehospital delay

Numerous population based studies and randomised trials have reported a correlation between older age and longer prehospital delays amongst patients suffering from a myocardial infarction (Goldberg et al 1999, Latour & Perez 1996, Schmidt & Borsch 1990, Sheifer et al 2000b, Yarzebski et al 1994, Gurwitz et al 1996, Medalie & Goldbourt 1976, Meischke et al 1993). For example, in Gurwitz et al's (1997) large scale retrospective chart review of patients who had been hospitalised in 37 Minnesota hospitals. Patients aged 85+ years were more likely to delay for up to 6 hours before seeking hospital care, than younger patients below the age of 55 years (Gurwitz et al 1997). However this study had limitations since data collection was reliant upon a retrospective chart review. Specific information regarding factors contributing to delay could not be explored since Gurwitz et al (1997) did not have access to patients or their physicians (GISSI - Avoidable Delay Study Group 1995, Johnson & King 1995). Further the exclusion criteria meant that no information was collected about the patients who had died before arriving at hospital. This information may have been useful for explaining whether these patients responded differently to their symptoms and whether this response contributed to their premature death. However despite these limitations the results from this study were supported by others who also found an association between older age and increased prehospital delay

(Goldberg et al 1999, Sheifer et al 2000b, Yarzebski et al 1994). Infact, Sheifer et al (2000) found that a large proportion of elderly patients delayed seeking hospital care for more than 12 hours following myocardial infarction symptoms which is of concern because these patients would no longer benefit from thrombolytic therapy (see Appendix 1) (Dracup et al 2003, Gurwitz et al 1997, UK Heart Attack Study Collaborative Group. 1998)

Older people are more likely to suffer atypical or asymptomatic myocardial infarction (Kannel & Abbott 1984, Roupie 1998, Sigurdsson et al 1995) and to suffer comorbid disease (Kannel & Abbott 1984, Sheifer et al 2000b, Sigurdsson et al 1995, Medalie & Goldbourt 1976). There is an increased likelihood of death following myocardial infarction amongst elderly patients (Maggioni et al 1993). This was illustrated in the Worcester Heart Attack Study (Yarzebski et al 1994) where data from 1990 suggested increased mortality rates amongst older patients admitted to hospital with myocardial infarction. Clearly a reduction in prehospital delays may help reduce mortality rates amongst this group (Gurwitz et al 1997).

2.5.2.2 Gender and prehospital delay

Although some studies (Goldberg et al 1999, Gurwitz et al 1997, Dracup et al 1995, Dracup & Moser 1991, LaRosa et al 1991, Ho 1991) have reported longer prehospital delays amongst women, the generalisability of findings raise questions since the female sample sizes within these studies (Pattenden et al 2002) were often small for any real comparisons to be made between their male counterparts. One qualitative study only used 2 females within its sample of 22 participants (Pattenden et al 2002).

Goldberg et al (1999) reported significantly longer delay times amongst women in their study. However, two thirds of their sample consisted of males in comparison to one third females. Further the women in Goldberg et al's (1999) study were of older age than the men, which may have contributed to the delays in their treatment, for the reasons described above and their myocardial symptoms becoming more atypical as reported in previous work (Gurwitz et al 1997, Kannel & Abbott 1984, Roupie 1998, Sheifer et al 2000a, Sigurdsson et al 1995, Sheifer et al 2000b, Medalie & Goldbourt 1976). The focus of research on men may also directly contribute to the failure of women to recognise their symptoms as being related to a myocardial infarction and in need of urgent attention or else lead to the denial and disbelief that they are suffering such symptoms at all (Meischke et al 1995). Of course within the USA, gender differences in the type of insurance and social support available may add to prehospital delays amongst females (Gurwitz et al 1997).

Others have considered knowledge and interpretation of symptoms to explain gender differences in prehospital delays. However, Goff et al (1998) and others (Clark et al 1992, Matthews et al 1983, Maynard et al 1989, Moss et al 1969) found no gender differences in knowledge of heart attack symptoms contradicting previous and more recent work which has shown an association between gender and prehospital delays (Alonzo 1986, Goldberg et al 1999, Gurwitz et al 1997, Schmidt & Borsch 1990, Turi et al 1986). Almost 90% of respondents in Goff et al's (1998) study identified chest pain as the most important symptom associated with a heart attack. However, less than a quarter of participants were aware of the constellation of symptoms associated with a myocardial infarction such as nausea, sweating and vomiting. This lack of knowledge about the combination of symptoms may be contributing to prehospital

delays (Goff et al 1998). Nonetheless, there were limitations to the study because although chest pain was identified as a determinant of a myocardial infarction, specific details about the symptoms and quality of pain were omitted from data collection. This data could have provided important information about expectations of pain associated with a myocardial infarction. Clearly expectations of a more dramatic event including sudden onset of symptoms and ideas about a person clutching their chest in pain during a myocardial infarction, as portrayed in popular media, compared to a less dramatic, actual event, may add to confusion regarding the cause of chest pain and prehospital delays (Goff et al 1998, Horne et al 2000, Perry et al 2001). Despite the limitations, these findings (Goff et al 1998) support the work of others (Clark et al 1992, Matthews et al 1983, Maynard et al 1989, Moss et al 1969) by highlighting that there are no gender differences between males and females in knowledge of heart disease. Increased knowledge of heart disease is related to shorter prehospital delays (Goff et al 1998).

2.5.2.3 Socioeconomic status and prehospital delays

An association has been reported between lower socioeconomic status and increased prehospital delays (Ell et al 1994, Ghali et al 1993, Goff et al 1998, Sheifer et al 2000b, Dracup et al 1997a, GISSI-2 and International Study Group 1992). Goff et al (1998) reported that there was a lack of knowledge of heart attack symptoms amongst people who had attained a lower education and a lower income. Studies have reported increased prehospital delays amongst patients lacking knowledge of heart attack symptoms (Penny 2001, Ruston et al 1998). Sheifer et al (2000b) reported similar results from a large scale quantitative study which used data from the Cooperative

Cardiovascular project (CCP) which was set up in 1992 in the USA. Sheifer et al (2000b) reported that prehospital delays were caused by the interrelationship between gender, ethnicity and socioeconomic status (Sheifer et al 2000b). However these findings have limitation since poverty was evaluated using zip codes and it was assumed that residents living within particular zip codes were from a lower socioeconomic status. Clearly people of all social backgrounds could live within these zip codes. However, it is agreed that when patient level information is unavailable, zip codes are an important alternative for providing missing data (Krieger 1992).

Conversely, there is inconsistency between findings since clear links between prehospital delays and socioeconomic status have not been identified by others (Gurwitz et al 1997, Brown et al 2000, Ratner et al 2006). Gurwitz et al (1997) used zip codes to identify impoverished areas for their study and concluded that median income was not related to increased prehospital delays. However Ratner et al (2006) felt that they may have underestimated the effect of socioeconomic status and knowledge of heart disease due to a sample bias, which consisted of slightly wealthier and better educated participants within their study.

2.5.2.4 South Asians and prehospital delays

There is a paucity of research examining factors related to prehospital delays amongst South Asians. Those studies which have specifically considered South Asians have focused their attention on ethnic differences in recognising and interpreting chest pain symptoms as cardiac in origin and whether these differences affect health care seeking behaviour, during a myocardial infarction (Barakat et al 2003, Chaturvedi et al 1997,

Ratner et al 2006). Chaturvedi et al (1997) carried out a quantitative study in West London, with 359 South Asians (consisting of Hindus and Sikhs) and 553 Whites. The questionnaire contained a fictional story about an individual suffering chest pain following a meal. No ethnic differences were reported between South Asians and Whites in terms of their ability to recognise symptoms as being cardiac (appendix 2). Similar findings have been reported in a prospective observational study with Bangladeshis (Barakat et al 2003). Further Chaturvedi et al (1997) reported ethnic differences between Whites and South Asians in terms of anxiety experienced as a result of such symptoms, with South Asians reporting that they would feel more anxious about such symptoms and would seek immediate care (Chaturvedi et al 1997).

Ratner et al's (2006) telephone survey included a short story about a fictional character suffering from chest pain symptoms. Participants were asked what they felt was causing the character in the story pain and how concerned they would be in this situation before the scenario was developed further to describe other symptoms, such as nausea and shortness of breath. 71% of respondents reported having a friend or relative who had previously suffered a myocardial infarction and 78% recognised symptoms as cardiac but only 37% stated that they would dial 911 in that situation. Ethnic differences were reported in knowledge of myocardial infarction. Chinese people had the least knowledge of such symptoms and were half as likely to call 911 compared to Punjabi speaking participants. Other factors which affected the decision to dial 911 following the onset of myocardial infarction symptoms included the inability to recognise symptoms as cardiac, a limited knowledge of an MI, no

previous history with a family or friend and never having discussed symptoms associated with an MI (Ratner et al 2006).

However a limitation of the study was that, unlike Chaturvedi et al (1997), Ratner et al (2006) treated the South Asian participants as homogenous since they all spoke Punjabi but specific details about the religion of the South Asian group were omitted. Punjabi is spoken by many South Asian sub-groups and its use in this context, as a description of South Asians, is an oversimplification since language alone does not define the different sub-groups. As a result any subgroup differences which may have occurred were not apparent, which limits the applicability of these findings to specific sub-groups. Further, results from both Ratner et al (2006) and Chaturvedi et al, (1997) reflect answers to a hypothetical situation and not a real situation. Hence, what people say they would do during such a situation and how they would 'actually' respond remains questionable with evidence both refuting (Ajzen et al 2004) and supporting (Barakat et al 2003) the value of hypothetical reports. Barakat et al (2003) found that Bangladeshis faced with a real situation responded to symptoms of heart disease by seeking health care more promptly than their White counterparts. Thus the findings of Ratner et al (2006) and Chaturvedi et al (1997) may not be an overestimation of the number of participants who would actually dial 911 or seek immediate care following chest pain.

There are a lack of studies which have considered South Asians and prehospital delays following onset of symptoms associated with a myocardial infarction. Those which have looked at South Asians have focused on symptom interpretation and response. These few studies have reported that South Asians would seek immediate

care following such symptoms (Chaturvedi et al 1997, Ratner et al 2006). However specific sub-group information was limited to Hindus, Sikhs (Chaturvedi et al 1997) and Bangladeshis (Barakat et al 2003) whilst the other study lacked information about the specific sub-groups which participated in the study (Ratner et al 2006). Therefore, more detailed research needs to be conducted in order to understand health care seeking patterns and prehospital delays amongst the different South Asian sub-groups.

Further, despite numerous studies reporting an association between prehospital delays amongst the elderly (Goldberg et al 1999, Latour & Perez 1996, Schmidt & Borsch 1990, Sheifer et al 2000b, Yarzebski et al 1994, Gurwitz et al 1996, Meischke et al 1993) and females (Dracup et al 1995, Goldberg et al 1999, Gurwitz et al 1997, LaRosa et al 1991, Dracup & Moser 1991, Ho 1991) results have left many unanswered questions due to the inconsistent findings which have been reported (Gurwitz et al 1997). The main reason for this is that other studies have shown that prehospital delays are not associated with gender (Clark et al 1992, Goff et al 1998, Matthews et al 1983, Maynard et al 1989, Moss et al 1969) or the elderly (Dracup et al 1995). This has resulted in attention being focused on patient related factors such as interpretation of and expectation of symptoms related to a myocardial infarction (Leslie et al 2000, Penny 2001, Perry et al 2001, Ruston et al 1998, Tod et al 2001).

2.5.2.6 Symptom expectation and prehospital delays

A qualitative study was conducted to explain varying responses to cardiac events (Ruston et al 1998). Forty three patients who had survived a cardiac event were interviewed. The decision to seek care was affected by numerous stages, which

included warning, interpretation, preliminary action, re-evaluation and final action, whilst patients considered their symptoms. Five patients responded immediately to their symptoms due to the sudden and severe onset of pain. The remaining patients were delineated to three separate groups, which included delayers, extended delayers and non-delayers. The delayers used a variety of methods such as medical and non-medical means to deal with their symptoms. Lay informants were used to rationalise their symptoms which added to delay times. Extended delayers used self medication, or sought advice from lay individuals and the medical profession before seeking care. Non-delayers assessed their situation without taking any medication to mask the symptoms. They had knowledge of a variety of symptoms associated with a heart attack and were more likely to consider themselves as being at risk from a myocardial infarction. The results from this study suggest people are more likely to respond to symptoms promptly if the symptoms are recognised as having cardiac origins. The limitations of this study (Ruston et al 1998) relate to the small number of females compared to males and a lack of information related to the ethnicity of the sample.

Horne et al (2000) carried out a study to investigate whether symptom expectation and symptom experience were related to prehospital delays. Eighty eight patients who had experienced their first myocardial infarction were selected from a coronary care unit at the Royal Sussex county hospital. The majority of patients reported that they had expected central chest pain and radiating arm and neck pain during a cardiac event. Results showed that if expectation (central chest pain) of a myocardial infarction was matched with that which the patient experienced, they would trust their own judgement and seek immediate medical attention. A mismatch between expectation and experience was associated with longer prehospital delays (Horne et al

2000) and has been supported by the work of others (Perry et al 2001). Those who did delay seeking immediate care suffered more atypical symptoms such as shortness of breath, tightening of the chest, vomiting or nausea, and feeling faint. Fewer than 10% of these participants recognised that such symptoms were associated with a heart attack. Further because their expectation of a cardiac event was not fulfilled, they left the decision to seek further medical help to others and were less likely to manage the situation themselves. These patients may have delayed even longer had their partners not intervened and ensured they received the care they needed (Perry et al 2001). These findings add support to the notion that living alone is a risk factor for premature death following a myocardial infarction (Case et al 1992). In addition Horne et al (2000) reported that rather than dialling for the emergency services as is recommended (Brighton Heart Attack Study (BHAS) 1995) the majority of patients (62 out of 88, 72%) contacted the GP for medical advice, which has been reported as increasing delays by others (Hitchcock et al 2003) or else drove or took public transport to hospital, a finding supported by other recent work (Bolivar-Munoz et al 2007). An explanation for such findings may be provided by the work of Meischke et al (1995) and Bolivar-Munoz et al (2007) who concluded that patients would not use emergency services if they believed their symptoms were not severe (Meischke et al 1995) or felt that using the emergency services could itself contribute to delays (Meischke et al 1995).

However both Perry et al's (2001) and Horne et al's (2000) studies were conducted after the cardiac event with patients who were convalescing in hospital. Details obtained in this manner may have been inaccurate due to the impact of the additional knowledge gained from experiencing and acknowledging the risk of having an MI on

recall. Further the studies did not have any data on those patients who had died or had suffered complications such as surgery. Horne et al's (2000) study had additional limitations since patients who had suffered a previous MI were excluded from the study. The study only included patients with a confirmed MI and no information was collected to find out if patients had witnessed a friend or family member suffering an MI. Despite limitations both studies (Horne et al 2000, Perry et al 2001) provide a useful insight into how a mismatch between expectation and experience can affect prehospital delays. Findings from Horne et al (2000) also confirm the work of others (Treasure 1998) by reporting that patients suffered an array of symptoms and not just severe chest pain.

Bolivar-Munoz et al (2007) conducted a qualitative study in Andalusia to explore the decision making process related to using an 061 emergency service or private transport during chest pain. Eleven focus groups were conducted in 2003, amongst patients with acute myocardial infarction or unstable angina who had been admitted to Emergency and Critical Care Services at two referring hospitals in Granada. Discussions were focussed on transportation during such an episode depending on previous experience of chest pain and distance to the hospital. Results from the study were consistent with previous work (Ruston et al, 1998) reporting that patients do not call emergency services because they misdiagnose the severity of their symptoms, do not want to be a bother, considered taking private transport faster and easier, did not realise that they needed an ambulance, felt others may need the ambulance service more than them or else simply did not know what the service would provide them with (Johansson et al 2004, Pattenden et al 2002, Ruston et al 1998, Brown et al 2000). Further Bolivar-Munoz et al (2007) reported that the patients from their study

stated that they would only use the 061 service if their pain was debilitating. However because their pain was not affecting their movement they had not felt sufficiently ill to warrant the use of such a service. Others did not use the service because they did not think they were having a heart attack.

Attempts have been made to reduce prehospital delays with the use of community education campaigns, informing patients of the importance of seeking immediate care in the acute situation (Gaspoz et al 1996, Ho et al 1989). However, most intervention studies have produced mixed and disappointing results (Gaspoz et al 1996, Hand et al 1998, Hitchcock et al 2003, Ho et al 1989) and do little to inform research of how people would actually react when suffering from an MI (Hitchcock et al 2003). Infact the majority of studies conducted within the last 30 years have concluded that community education programmes related to symptom recognition or early emergency service access, have done little to reduce prehospital delays (Bett et al 2005, Caldwell & Miaskowski 2002).

2.5.2.7 Summary

Prehospital delays for this review have been explained in terms of age, gender, ethnicity, socioeconomic status and pain expectation. However findings have not been consistent. Studies which have considered ethnicity or gender as factors affecting prehospital delays have not been convincing due to the small unrepresentative sample sizes. More studies need to be conducted both on gender and ethnicity for improving understanding of prehospital delays amongst these groups.

There have not been any studies looking at the influence of family, friends or the setting which may affect which method of transport is taken during such an emergency situation. Pattenden et al (2002) have reported from their qualitative study that wives often took the initiative to call emergency services on behalf of reluctant husbands. Such patients were reported to feel less guilt about using health services when somebody else took over (Pattenden et al 2002).

2.6 Equitable access to cardiology services

The following section will assess equity in health care access for cardiology services including coronary angiography and revascularisation services. An important question relates to the equality of access to health care services amongst South Asians. Inequalities in service provision may be related to a difference in need for services or inequalities in supply of services.

When the UK National Health Service was set up in 1948, a key objective was to provide equitable health care to all its citizens (Buxton & Klein 1978, Goddard & Smith 2001). Equity has two dimensions: equity relates to the provision of equal access during the initial stages of health care and once care has been accessed there should be equity in quantity and quality of care received (Collins & Klein 1980). Therefore patients with equal need should have equal services available to them. However, the interaction between the patient and health care provider affect the types of treatment received since preferences, prejudices and perceptions of the two parties' impact upon the provision of care. As a result numerous factors, other than health care, may contribute to variations in health outcomes (Goddard & Smith 2001).

2.6.1 Conceptualising access

Concepts of access are dependent upon the health care system being utilized. For example in the USA, access is dependent upon whether an individual is insured or not. Within Europe access is a subtle concept since everybody in principle has health insurance. Hence in Europe, concepts of access are related to the ability to obtain a certain range of services, which are of a certain quality, resulting in a specified amount of inconvenience, whilst at the same time, information is disseminated for patients to become better informed (Goddard & Smith 2001). Finally other health systems such as the UK National Health Service are free of charge. However, substantial variations in access to health care may still occur as a result of a variety of cultural and language differences. These differences may affect awareness of the availability and effectiveness of services (Goddard & Smith 2001).

Variation in access may occur as a result of availability of services. Hence, some population groups may not have specific health care services available to them or clinicians may offer different treatments to different population groups despite them having matched needs; quality of services may be different depending upon the population being served; a variety of costs (either financial or otherwise) may occur depending upon the population and finally the health care service may fail to provide equal information for all its population, about the services available (Goddard & Smith 2001).

Clearly when considering access, quality of service needs consideration (Donabedian 1980). Three categories of quality which could affect the patient have been presented

by Donabedian (1980). These include structure, process and outcome. Inappropriate use of health care services may occur if the quality of structure is poor; patients may suffer from dissatisfaction or be less likely to comply with treatment if the process is of poor quality and finally future health service users may be deterred if there are poor quality outcomes (Starfield 1993). Clearly systematic variations in quality may occur between population groups. Such differences in quality may occur as a result of the quality of premises, attitudes displayed by staff, waiting times, time spent during consultations and clinical outcomes. However few studies have considered variations in quality of access due to the elusive nature of the topic (Goddard & Smith 2001).

The following section will focus on how gender, ethnicity and communication impact upon inequalities in access to cardiology services.

2.6.2 Gender and access to cardiology services

Research findings from the US and other countries have consistently reported poor access to hospital services amongst females in comparison to males (Ayanian & Epstein 1991, Majeed et al 1994). Inequities have specifically been reported in cardiology services (Goldberg et al 1992a) where female gender is associated with lower rates of angiography and coronary artery bypass grafting (Britton et al 2004, MacLeod et al 1999, Majeed & Pollock 1993, Petticrew et al 1993, Majeed & Cook 1996) and angiograms (Kee et al 1993) following hospital admission for ischaemic heart disease even after controlling for co-morbidities (Majeed et al 1994).

Dong et al (1998) identified a gender difference in the treatment offered to males and females using data from the Health Survey for England, with females being significantly less likely to be given cardiac surgery or to be on a waiting list for cardiac surgery than men. This finding supports previous work (Demirovic et al 1995, Steingart et al 1991, Stone et al 1996) and findings from other countries (Brophy et al 1996, Petticrew et al 1993). Further, increasing age resulted in increasing gender differences with men over 65 years being three and a half times more likely than females to undergo cardiac surgery (Dong et al 1998). Socioeconomic status may have acted as a confounding variable affecting access to health care (Gaffney & Kee 1995) since the female sample was predominantly inactive or housewives. It has been reported that health care access is lower amongst those of lower socioeconomic status (Ben-Shlomo & Chaturvedi 1995, Chaturvedi & Ben-Shlomo 1995, Morris et al 2005). Those without access to a car were less likely to report previous or pending cardiac surgery (Dong et al 1998).

2.6.3 Ethnicity and access to cardiology services

Despite few studies looking at disparities in equity and access to care by ethnicity, there is a growing concern that ethnicity of patients may affect access to medical care and that need is not being met with equal care and treatment (Acheson 1998, Davey Smith et al 2000, Feder et al 2002, Trevino 1999). Reports from the US (Kravitz 1999, Sheifer et al 2000a) across Europe (Bollini & Siem 1995) and England (Dhawan & Bray 1994, Goldsmith et al 1999, Lowry et al 1984, Mukhtar & Littler 1995, Shaukat et al 1993) have suggested that there is less access to invasive treatment amongst Blacks and Hispanics (Kravitz 1999, Sheifer et al 2000a), recent

migrants and non-natives (Bollini & Siem 1995) and South Asians (Dhawan & Bray 1994, Goldsmith et al 1999, Lowry et al 1984, Mukhtar & Littler 1995, Shaukat et al 1993) compared to Whites. Such inequalities in access to treatment within cardiology services may explain the increased mortality from coronary heart disease (Wild & McKeigue 1997) amongst ethnic minorities both in the US (Fang et al 1996) Europe (Bollini & Siem 1995) and UK (Erens et al 2001).

Studies investigating referral delays amongst South Asians and Whites with angina reported that South Asians had to wait twice as long to see a cardiologist as Whites (Shaukat et al 1993) and wait longer for an angiography (Dhawan & Bray 1994) following symptom onset of chest pain. Explanations provided by the authors for the longer referral delays (Shaukat et al 1993) amongst South Asians included the view that South Asians are naturally more stoical about pain and have a higher threshold before seeking care. Other explanations included barriers such as language difficulties or a reluctance to seek treatment from hospital (Shaukat et al 1993). Lear et al (1994) carried out a retrospective analysis of 211 South Asians and 192 Whites admitted to a coronary care unit within a University teaching hospital in-order to see if there was an over representation of South Asian inpatients with an MI and whether treatment was comparable across the different ethnic groups. Significantly more South Asians (34%) than Whites (27%) had suffered a myocardial infarction, but only half the South Asians (49%) compared to most of the Whites (80%) were given thrombolysis treatment (Lear et al 1994). However, a larger proportion of South Asian patients presented too late for thrombolysis treatment to be effective (Lear et al 1994, Shaukat et al 1997). Also, South Asians were significantly more likely than Whites (22% vs. 6% respectively) to be diagnosed as suffering from non-specific chest pain as well as

being more likely to have an atypical history. Post infarct arrhythmias (irregular heart beat) and death was suffered by a larger proportion of South Asians compared to Whites. Further South Asians were less likely to be referred for an exercise tolerance test or coronary catheterisation than their White counterparts although these differences were not statistically significant. Results from the study were disturbing and initially the obvious reasons for such disparities appeared to be because of the late presentation and atypical histories amongst South Asians. However, atypical and typical histories were presented in equal numbers in the late presentation group. Despite this South Asians were still less likely to receive thrombolysis than their White counterpart regardless of typical or atypical history (Lear et al 1994).

Nonetheless this study (Lear et al 1994) had limitations due to its small sample size which may have lead to the findings which were reported as insignificant, thus suggesting the need for a large scale study. Further information about the exact ethnic mix of the sample was not given and the South Asian group was simply referred to as Indian. Result from the studies mentioned (Dhawan & Bray 1994, Goldsmith et al 1999, Lowry et al 1984, Mukhtar & Littler 1995, Shaukat et al 1993) have important implications for health care access amongst South Asians. However due to the small sample sizes of these studies (combined total 476 South Asians) and specific details about severity of illness and appropriateness of procedures being omitted, conclusion about unequal treatment amongst ethnic minorities cannot be drawn.

A more recent prospective observational study (Barakat et al 2003) conducted almost 10 years later causes concern whilst supporting earlier findings (Lear et al 1994). By contrast Barakat et al (2003) found that Bangladeshi patients correctly interpreted

chest pain symptoms as being related to an MI. They responded to symptoms as promptly as their White counterparts by seeking health care. The Bangladeshi patients were predominantly male, had experienced a previous MI and suffered from diabetes, which should have alerted staff of the increased probability of another MI. However despite histories of MI and diabetes, Bangladeshis had to wait almost twice as long as their White counterparts to receive an appropriate diagnosis for thrombolysis. This causes concern given the importance of time to treatment for the effectiveness of thrombolysis (Berger et al 1999, Department of Health 2000, Goldberg et al 1998). However once a diagnosis was made, there were no ethnic differences in provision of thrombolysis. Bangladeshis were reported to present with atypical symptoms, resulting in emergency staff misinterpreting the severity of their symptoms which contributed to delays in treatment. Further a lack of communication skills may have also contributed to these disparities in care since only a third of Bangladeshi patients in the sample were fluent in English (Barakat et al 2003). These findings cause concern since misinterpretation of symptoms could lead to such patients being sent home early, resulting in increased mortality (Pope et al 2000). Unfortunately Barakat et al, (2003) were not able to determine whether the patients in their study would have been discharged or misdiagnosed but were able to surmise that the results suggested that this would be the probable outcome. Further there was no data collected on door to ECG times amongst any of the participants. Such information may have explained differences in the management of the two ethnic groups if the Bangladeshis had a delay in recording their ECG.

A prospective cohort UK study has provided strong evidence that patients needing coronary revascularisation are less likely to receive it if they are South Asian rather

than White (Feder et al 2002). These different rates of revascularisation could not be explained in terms of physician bias as has been suggested previously (Shulman et al 1999). Those that were least likely to receive coronary revascularisation, tended to be Bangladeshi, older, women and of a lower socioeconomic status.

An investigation of civil servants included in the Whitehall II study reported that access to cardiac services or use of preventive drugs was not affected by ethnicity (Britton et al 2004). Infact more South Asians were given an exercise electrocardiogram or angiogram and were more likely to be taking preventive drugs such as beta-blockers compared to their White counterparts. Further, unlike previous studies (Feder et al 2002), there were no significant differences in terms of revascularisation. However, in spite of these findings, civil servants within this sample are not as equally representative of the South Asian population more generally.

A longitudinal observational study was conducted to examine whether declines from MI have been comparable for South Asians and Whites (Liew et al 2006).

Consecutive MI patients (N=2690) over a 15 year period starting in January 1988 – December 2002 from a coronary care unit in East London were studied. During 2002 38% of admissions to a coronary care unit were South Asian. Of these 37% were Indian, 34% were Pakistani and 27% were Bangladeshi. Results showed that overtime an increased proportion of MI patients were South Asian, increasing from 22% to 37%. Progressive declines in all major complications were observed with 27.7% lower rates of in-house mortality at the end of the study than at the beginning in 1988. Both Whites and South Asians had benefited from these clinical outcomes. The

explanation given for increased MI amongst South Asians related to their propensity to accelerated atherogenesis and MI and increased prevalence amongst young males. Despite increased diabetes and hypertension amongst the South Asian patients, declines in mortality during the 15 year study period were the same for Whites and South Asians (Liew et al 2006).

A promising study has recently been reported by Ben-Shlomo et al (2008). Ben-Shlomo et al (2008) used the MINAP dataset to establish whether there are ethnic differences in health care seeking and management of patients with chest pain. The study used the dataset to examine three outcomes: '1. arrival at hospital by ambulance following a 999 call; 2. Provision of thrombolytic therapy; 3. Time from onset of symptoms to arrival time at hospital. 3i. Time from arrival and receiving thrombolysis; 3ii. Total time from symptom onset to receipt of thrombolytic therapy' (Ben-Shlomo et al 2008). Results showed that South Asians and South Asian women in particular were less likely than Whites to arrive at hospital by ambulance. Explanations for South Asians being less likely to arrive at hospital by ambulance were that they may have lived close to the hospital or because they were reluctant to call 999 (Ben – Shlomo et al, 2008) as reported elsewhere (Bolivar-Munoz et al, 2007). Further longer time delays before arrival at hospital could be because the pain experienced was not as severe, lasted for less time and was atypical for acute coronary syndrome or non-cardiac chest pain. South Asians may have asked family or friends for advice adding to delays in seeking care (Ben-Shlomo et al 2008, Bolivar-Munoz et al 2007).

Slightly more South Asians received thrombolytic therapy than Whites. However, the greater frequency of dubious ECG results amongst South Asians increased the likelihood of them receiving thrombolysis. This may have occurred because South Asians have been reported to present with atypical histories and young South Asian Males have an increased risk of an MI compared to their White and female counterparts (Barakat et al, 2003).

In contrast to findings from other studies (Lear et al, 1994; Shaukat et al, 1993) following symptom onset, South Asians did not wait longer for thrombolysis. However when they first arrived at hospital they did wait slightly longer for thrombolysis despite the clinician ruling that they probably had suffered an MI. This minor delay may have occurred because it took South Asians longer to explain their cardiac pain to the clinician or because they had not arrived at hospital by ambulance and thus needed an ECG before any intervention could be started (Ben-Shlomo et al 2008).

Ben-Shlomo et al (2008) suggested that South Asians were more likely to receive thrombolysis. However it was difficult to assess the effect of arriving by ambulance compared to car. Patients arriving by ambulance probably received a prehospital ECG, had supportive therapy in advance and may have been treated for a life threatening arrhythmia. However the study reported that less than 0.5% received prehospital thrombolysis. Calling for an ambulance would be beneficial, if prehospital thrombolysis becomes commonplace. Finally these results suggest that South Asians may be over treated for MI since clinicians have become aware of presentation with

atypical symptoms and increased MI amongst young South Asian males (Ben-Shlomo et al 2008).

2.6.4 Poor communication and access to coronary care

Little attention has been given to understanding the impact of communication problems which may exist between health care professionals and South Asians. These problems may be the result of language difficulties and cultural differences (Van Wieringen et al 2002) and may affect access to CVD health care.

Naqvi (2003) conducted twelve focus groups with primary health care staff from 10 GP practices in areas of Bristol with a large South Asian population. Primary care staff were asked to describe their consultations with patients suffering from CVD conditions, with the aim of investigating barriers to accessing health care and whether health care needs were being met. The issue described as having the greatest impact on access and delivery of care related to poor communication, particularly the inability of South Asians in Bristol to speak or understand English. Cultural differences in presentation of symptoms were also reported with South Asians discussing more generalised symptoms as opposed to specific symptoms unlike their 'non-South Asian' counterparts. As a result GPs found it difficult to interpret such symptoms and this lead to difficulties in arriving at a diagnosis (Naqvi 2003). Poor communication and English language skills have also been described as acting as a barrier to accessing secondary care for cardiovascular disease amongst South Asians (Barakat et al 2003, Dhawan & Bray 1994, Goldsmith et al 1999, Lowry et al 1984, Mukhtar & Littler 1995, Shaukat et al 1997, Shaukat et al 1993).

Social class, language and literacy levels may all impact upon the patient-GP consultation (Gardner & Chapple 1999). Results from this qualitative study showed that barriers to health care also occurred as a result of patient fears associated with hospitals, the GPs surgery and medical tests. The English terms and phrases used by patients to describe their symptoms were described by GPs as causing some confusion when trying to establish a diagnosis, (Gardner & Chapple 1999, Tod et al 2001). GPs perceived a lack of knowledge among South Asian patients about the treatment available for angina and felt that they were more willing to live with their condition, by denying its existence and adapting their lifestyle to manage it (Tod et al 2001). Patients with co-morbidity were unable to identify symptoms related to angina, which is an important factor affecting access, as has been reported elsewhere (Ruston et al 1998).

Van Wieringen et al, (2002) conducted a descriptive study amongst parents consulting with young children, to explore how communication and patient beliefs affected compliance amongst ethnic majority and minority patients in Rotterdam. Results showed that mutual understanding between patients and GPs was poor in 33% of consultations conducted with ethnic minority patients compared to a much smaller proportion of Dutch patients (13%). Consultations lacking mutual understanding resulted in non-compliance with the recommended therapy. Ethnic minorities reported more problems in their relationship with the GP and stated that they had different health beliefs than their counterparts in Rotterdam (Van Wieringen et al 2002).

2.6.5 Summary

Evidence suggesting inequalities in access to effective cardiovascular health care as a result of ethnicity (Chaturvedi et al 1997, Feder et al 2002) gender (Britton et al 2004, MacLeod et al 1999, Majeed & Pollock 1993, Petticrew et al 1993, Majeed & Cook 1996) and communication (Van Wieringen et al 2002) is disturbing. Physician bias or the physician's inability to reach a diagnosis amongst females or South Asians may contribute to delays but findings are inconsistent. These findings suggest that despite the National Service Framework for CHD (Department of Health 2000) in England and Wales explicitly recommending the equitable access to revascularisation services amongst all ethnic groups (2000), in practice this may not be occurring (Feder et al 2002, Naqvi 2003) or else there may be over treatment of South Asians (Ben-Shlomo et al, 2008). South Asians from the MINAP dataset were reported to be more likely to receive thrombolysis compared to previous studies suggesting the opposite (Feder et al, 2002; Naqvi, 2003).

Results from Barakat et al (2003) demonstrate the importance of health care staff being aware of the different idiosyncrasies related to presentation of pain amongst people from cultures and ethnic backgrounds other than their own. Studies have reported the atypical presentation of chest pain symptoms amongst South Asians (Lear et al 1994, Barakat et al 2003). It is time for health care staff to take note of these differences and tailor response to such symptoms accordingly.

2.7 Conclusion

There is a paucity of research on health care seeking and access to health amongst South Asians. Studies (Dhawan & Bray 1994, Goldsmith et al 1999, Lowry et al 1984, Mukhtar & Littler 1995, Shaukat et al 1993) which have attempted to address this question have used small scale quantitative studies which rely on fixed responses. This has added little depth to our understanding of the participants role in health care seeking since participants are unable to explain their answers in detail as there is no place for additional comments within quantitative research. Despite these limitations, studies (Lear et al 1994, Shaukat et al 1993) have suggested that reasons for delays in treatment are related to being South Asian. That is South Asians are considered to be more stoical, have higher thresholds before seeking health care, are reluctant to seek hospital care (Shaukat et al 1993) present with atypical symptoms (Lear et al 1994), (Barakat et al 2003) or non-specific chest pain (Lear et al 1994). However contrary to previous findings (Shaukat et al 1993), more recent research has concluded that South Asians are able to interpret and respond to chest pain as promptly as their White counterparts (Barakat et al 2003, Chaturvedi et al 1997) but still may have to wait twice as long to receive thrombolysis (Barakat et al 2003). Whilst underlying processes have been highlighted using these quantitative studies, they left many unanswered questions which would be better explored using a qualitative approach (Elford et al 2004). This PhD is a follow up to the findings of Chaturvedi et al (1997). A qualitative approach was considered most appropriate as it would highlight why variations exist between South Asians and Whites in terms of interpretation and response to chest pain. This approach was used to delve deeper whilst looking for consistencies or inconsistencies within participants stories regarding their response to

pain so that explanations could be provided for the previous inconsistent findings (Chaturvedi et al 1997, Shaukat et al 1993).

2.8 Aim and Objectives

2.8.1 Aim

The aim of the study was to explore perceptions about heart disease and to develop an overall understanding about the decision making processes which would affect health care seeking behaviour amongst South Asians and Whites following hypothetical chest pain.

2.8.2 Objectives

1. To explore how participants define health.
2. To explore what behaviours, risk factors and other issues the participants considered as being important for causing heart disease.
3. To uncover the participants' understanding and perspectives on the pathways to accessing health services following a hypothetical incident of chest pain.
4. To explore how participants would respond to hypothetical chest pains
5. To identify participants' expectations from healthcare professionals following hypothetical chest pains.

Chapter 3 - Methodology

3.1 Introduction

The first section of this chapter will begin by describing the background to this study. This will be followed with the theoretical basis for face to face interviews and focus groups. Consideration will be given to ideas about reliability, validity, triangulation and generalisability. This first section will end with an outline of the theoretical approach used for organisation of the data as well as the epistemological framework used for data analysis. The second section of the chapter will describe what I did, thus describing the methodological procedure used to conduct the research. Emphasis will be placed upon sampling strategy, methods used for collecting the data and the approach used for organising and analysing the data.

3.2 Background

The present qualitative study was undertaken as a follow-up to a quantitative study which has been discussed in chapter 2 (Chaturvedi et al 1997). In this quantitative study White and South Asian participants were presented with a hypothetical scenario of chest pain. Participants were asked what they thought was causing the pain and how they would respond to such a pain. Results showed that South Asians would be more anxious about such symptoms and seek immediate care. These findings therefore did not explain why South Asians experienced inequitable access to secondary services as suggested by previous work (Lear et al 1994, Shaukat et al 1993). It is accepted that response to a hypothetical situation may not be the same as

occurs in a real life situation. A qualitative enquiry was therefore used to explore specific questions related to prehospital delays or health care seeking behaviour, ideas about health, views on disease development and definitions of health. Hence a qualitative study would add depth to the findings which had already been obtained about health care seeking behaviour amongst South Asians and Whites.

3.3 Epistemology

Important philosophical debates arise when deciding how to study the social world. These issues relate to ontology and epistemology. Ontological issues are ‘concerned with beliefs about what there is to know about the world’ (Ritchie & Lewis 2003). ‘Epistemology is concerned with ways of knowing and learning about the social world and focuses on questions such as: how can we know about reality and what is the basis of knowledge?’ (Ritchie & Lewis 2003)

The epistemological position adopted for the present study is social constructionism. Social constructionism accounts for socially constructed phenomena, for example there are many constructions of war and what it means and each meaning is mutually-exclusive developing from a variety of ideologies and politics. However, since meaning is mutually constructed by humans, it has fluidity, volatility and is open to change through further social interactions (Burr 2003). Within social constructionism all phenomena come about in this manner. Hence the focus of social constructionism attempts to discover the contributions made by individuals and groups in the formation of their perceived reality. This approach is concerned with the creation of social phenomena, the way it becomes institutionalised and thereafter a human

tradition. Reality which is socially constructed is viewed as a dynamic on-going process and produced daily by people responding to their knowledge and interpretation of it. Hence our daily social interactions maintain knowledge (Berger & Luckmann 1991).

Socially constructed ideas include gender, class, race, sexuality, morality, mental illness, personality, governments, universities, corporations, nations, schools and other institutions. However upon closer inspection it is clear that many fixed and permanent ideas or institutions which we take for granted have been socially derived and are socially maintained. The creation and perpetuation of such ideas is the result of being part of a culture or society which shares those same meanings (Burr 2003).

3.4 Reflexivity

An extensively used expression within social constructionism is reflexivity, where the researcher and the researched are considered to be collaborators in terms of their constructions of knowledge. Hence reflexivity is an acknowledgment that the researcher plays a central role in the development or construction of knowledge and that all that is constructed is related to personal views of reality which can change and become reconstructed at any time. Anything which may have had an impact on the research process or outcome needs to be made explicit. This allows readers to 'judge the content in context of the perspectives and assumptions by which it was shaped' (Marshall 1986). This also allows for reanalysis, alternative interpretations and explanations of the material by those reading the finished report (Banister et al 1994).

Reflexivity therefore tries to make the process of data collection and analysis explicit, via the recognition of the biases inherent in researchers' perspectives and their potential impact on the research process. According to Wilkinson (1988) reflexivity in its simplest form, 'may be considered to be disciplined self reflection'.

3.4.1 Disciplined reflexivity

Within disciplined reflexivity every part of the research process is critically reflected upon including: the research subject matter, the design of the research, the methods and the researcher's personal experience of carrying out the study. Wilkinson identified two other types of reflexivity; personal reflexivity; functional reflexivity (Wilkinson 1988).

3.4.2 Personal reflexivity

Personal reflexivity refers to an acknowledgement of the researcher and how the study was influenced by their interests and values in an attempt to make the impact of their involvement explicit and clear. For example early on within Marshall's (1986) work, she has made her degree of involvement clear: 'I have always chosen as research topics issues which have personal significance and which I need to explore in my own life' (Marshall 1986). Such detail helps integrate the researcher's impact upon the research as well as explain constructions of knowledge. However this should not be considered a limitation of qualitative work. The reflexive quality of the work permits a critical edge which does not merely reflect the researcher's personal unconscious issues but is a critical examination of the facts which are grounded in participants'

accounts. It is recommended that the development of ideas be discussed with others whose varying, potentially conflicting ideas can help develop these concepts whilst giving clarity to the work and challenge their conceptual development (Banister et al 1994).

3.4.3 Functional reflexivity

Wilkinson (1988) refers to functional reflexivity as involving, ‘continuous, critical examination of the practice/process of research to reveal its assumptions, values and biases’ (Wilkinson 1988). The emphasis here specifically relates to how the researcher’s interests have affected the direction the research has taken as a direct result of the researcher.

3.5 Semi-structured interviews

‘A conversation with a purpose’(Kahn & Cannell 1957).

The semi-structured interview has a loose structure with open ended questions (Britten 2006) which do not have a specific sequence or form (Holloway 1997). However through the use of an interview or topic guide, the researcher is able to ensure that specific information, about the area of interest, is gathered from each participant in their own words and time (Holloway 1997). A decision is made during each interview about areas which need pursuing, at which point the researcher asks further questions allowing him/her to delve deeper (Britten 2006, Holloway 1997).

This approach allows for the development of deeper meanings of events, attitudes and experiences by the individuals (Bowling 1997).

3.5.1 Strengths of the semi-structured interview

The use of open-ended questions within semi-structured interviews allows individuals to tell their stories (Bowling 1997, Holloway 1997) with richness, detail and spontaneity (Oppenheim 1992).

Research using semi-structured interviews can obtain a much higher response rate than that of postal questionnaires (Oppenheim 1992). Unlike the covering letter attached to postal questionnaires, interviewers are able to clarify any questions about the purpose of the study when conducting the interview. The interviewer is also able to reach participants who are less educated and have reading difficulties (Oppenheim 1992). Participants with language difficulties may have the benefit of having interviews conducted in their preferred language, as long as a trained interviewer is available. Other benefits include the ability to deal with confusion by offering standardised explanations and preventing misunderstandings about meanings of particular words used to elicit information (Oppenheim 1992). Finally although the topic guide ensures similar material is gathered from each participant, each interview is different. This is because people are able to tell their own stories and draw in those details felt to be of relevance by them, rather than being forced to cover only those details included in a questionnaire. Moreover, some answers will prompt the interviewer to ask further delving questions about themes which they may not have

previously considered (Britten 2006, Holloway 1997) giving more depth to concepts under exploration (Bowling 1997).

3.5.1.2 Limitations of the semi-structured interview

A considerable amount of skill and training is required for conducting interviews (Meadows 2003). Such skills are particularly important when dealing with participants who are verbose. The interviewer needs the ability to be directive whilst giving the participant the opportunity to tell their story (Field & Morse 1989). An important skill for a qualitative interviewer is the ability to gain the trust and co-operation from the interviewee, since qualitative interviews are most effective when the participant feels personally involved in the process (Douglas 1976). A lack of rapport between the interviewer and informant may affect the value of the study (Holloway 1997). Further the discussion of more sensitive subjects required in some interviews may be met with reticence. If the interviewer has a lack of interviewing experience or appropriate language skills they may be unable to evoke long narratives from participants. Additionally response to some of the questions or certain elements within the conversation may not be comprehended properly by the researcher, which could affect additional prompting of ideas or themes as they develop and the value of the data collection. (Douglas 1976).

A common pitfall of interviewing is that the interviewer jumps from one topic to another (Field & Morse 1989). Thus it is essential for interviewers to have good listening skills so that they can follow up questions and probe for more information in

a subtle manner. Such skills ensure that ideas which are developing can be elaborated upon (Marshall & Rossman 1995).

Furthermore, it is important that interviewers are aware of their own biases and how they may both positively or negatively influence the interview (Holloway 1997). A number of factors can bias the interview, including characteristics of the researcher, such as ethnicity or gender (Holloway 1997). Bias may also occur during the interview because the interviewer offers advice, or inadvertently divulges information regarding their assumptions and perspectives about the topic under consideration (Holloway 1997, Field & Morse 1989). Hence it is important to state any assumptions or biases when reporting findings from the research.

3.5.2 Focus groups

'The focus group presents a more natural environment than that of the individual interview because participants are influencing and influence others - just as they are in real life' (Krueger & Casey 2000)

Focus groups usually consist of 6 to 8 participants (Meadows 2003) comprising of those who share specific characteristics relevant to the research question (Marshall & Rossman 1995, Krueger 1988) but do not usually know each other (Marshall & Rossman 1995). The aim is for the researcher to create a relaxed and permissive environment which can encourage participants to discuss the variety of views and opinions triggered by the questions asked by the researcher (Holloway 1997, Marshall & Rossman 1995, Kitzinger 1994, Krueger 1988). Such a process permits insight into

the development of opinions with regards certain issues (Holloway 1997). Several different focus group discussions are usually conducted so that the researcher is able to identify patterns in expressed opinions or perceptions whilst carrying out data analysis (Krueger 1988).

Focus groups are useful for understanding attitude formation since these views and opinions are not formed in a vacuum (Marshall & Rossman 1995). The focus group setting allows researchers to capitalise on methods of communication used within daily social interactions. Individuals are considered to form opinions of their own once they have listened to the ideas, views and understandings of others (Holloway 1997, Marshall & Rossman 1995, Kitzinger 1994). The focus group setting is a recreation of this scenario and participants are encouraged to talk to one another, exchange anecdotes, ask questions and comment on each others experiences or points of view (Kitzinger 1994). Such an approach encourages the exploration and clarification of views which may not be possible within the one to one interview (Marshall & Rossman 1995, Kitzinger 2000). Also, when group dynamics are conducive to a vibrant conversation, co-participants may begin to act as co-researchers by prompting the development of more ideas and asking additional questions of the group. Such group discussions may take the research in new and unexplored directions (Marshall & Rossman 1995, Kitzinger 2000).

3.5.2.1 Strengths of the focus group

Since focus groups are socially orientated, participants can be studied within a more natural and near to real life atmosphere (Marshall & Rossman 1995), thus allowing

for the exploitation of different forms of daily communication including jokes, arguments and anecdotes (Kitzinger 2000). Particular issues affected by cultural norms and values can be highlighted if the researcher has capitalised on such interpersonal communication. Analysis of humour, group consensus, disagreement and narratives permits the identification of shared and common knowledge (Hughes & Dumont 1993). Further the cultural sensitivity of focus groups means they can be employed for cross-cultural studies or work with ethnic minorities (Kitzinger 2000). Focus groups have also been found to be useful when studying why different sections of a population make different use of health services available to them (Naish et al 1994). Finally focus groups can be combined with individual interviews or other methods of data collection (Morgan & Krueger 1993).

3.5.2.2 Limitations of the focus group

There is less control within the focus group situation since participants may begin to discuss irrelevant topics, resulting in time being lost (Holloway 1997, Marshall & Rossman 1995). Group conflict may occur and affect the group dynamics in a destructive manner or else produce rich data (Holloway 1997). Focus groups therefore need to include observer moderators who have experience and have been highly trained (Marshall & Rossman 1995). People who encounter difficulty when verbalising emotions or feelings will make poor informants within focus groups (Holloway 1997). Due to complications associated with planning and organising focus groups it may be difficult to create an environment which instigates a natural discussion or conversation (Marshall & Rossman 1995).

3.5.3 Summary

Interviews and focus groups enable researchers to gather information about a particular topic from two complimentary standpoints (Trow 1957). Individual level information is gathered from semi structured interviews (Marshall & Rossman 1995) which enable the interviewer to exert more control over the direction of the interview and focus on key issues in more depth. The focus group, meanwhile can help the interviewer tap into the development of ideas and knowledge from different cultural contexts (Kitzinger 2000). In comparison to the individual semi-structured interview, focus groups can yield more information on decision making and attitude formation (Finch & Lewis 2003).

3.6 The quality of qualitative research

3.6.1 Reliability and validity

Criteria used to assess the reliability and validity of quantitative research cannot be applied to qualitative research (McLeod 1994, Lincoln & Guba 1985). This is because quantitative and qualitative enquiry have developed from different philosophical, methodological and theoretical positions (Guba & Lincoln 1989). Guba and Lincoln (1989) stressed the inappropriateness of evaluating all forms of research with one universal criterion, since this method would favour comparable research paradigms. Guba and Lincoln (1989) and more recently (Sandelowski 1986, Sandelowski 1993) stress that unlike quantitative studies, qualitative studies need judging on the basis of their 'trustworthiness'. Four components of trustworthiness have been suggested

including, credibility, transferability, dependability and confirmability, (Guba & Lincoln 1989). The goal for credibility is to ensure the accurate identification and description of the subject. Hence the credibility of a study is judged in terms of whether or not the findings make sense and whom the credibility relates to, such as the participants or the researchers peers. Credibility of findings can be confirmed through discussions with the participants who may agree or disagree with the way their views have been interpreted. Hence this method relies upon respondent validation which can be an asset.

Transferability refers to whether the findings of one study can be transferred within another context. In terms of generalisation this has been referred to as the second decision span (Kennedy 1979). The first decision span permits generalisation from a sub-sample of participants to the whole population (as long as adequate selection criteria were used). A second investigator is then able to apply these findings to a second population group if it is understood that the two populations are similar (Kennedy 1979). Nonetheless transferability or generalisability to other populations or settings can be problematic within qualitative research as a result of the sampling criteria employed. Consequently researchers wishing to establish the transferability of findings can do so by considering how the original study was theorised and outline how these concepts will guide new data collection and analysis. Such an approach addresses the theoretical parameters within the research and allows policy makers to decide whether initial findings can be transferred to other settings and findings generalised within other contexts such as new research policy (Marshall & Rossman 1995).

Concepts of dependability are in sharp contrast to the assumptions of reliability (Marshall & Rossman 1995). Reliability from a positivist perspective assumes that any enquiry can be replicated since the universe is unchanging. However, qualitative enquiry assumes that the universe is constantly being constructed and hence deems notions of replication as problematic.

Confirmability is concerned with objectivity and whether or not researcher bias has been acknowledged. The focus is on whether another researcher could confirm the findings obtained. Thus, findings are related to the evaluation of the data and not the researcher characteristics. Hence the criterion used for qualitative enquiry refers to whether or not the data has helped support general findings and the implications of the study.

Finally, others have stated that the strategy in qualitative research (as with quantitative research) is to ensure systematic and self conscious rigour. Detailed accounts of the methods used for data collection and data analysis need to be provided by both the qualitative and quantitative researcher, with a plausible and coherent explanation of the topic under investigation (Meadows 2003).

3.6.2 Triangulation

Triangulation is a method used to improve validity, which entails the same problem being investigated using two different data sources (such as face to face interviews and focus groups). This approach can foster corroborations supporting the overall interpretations of the data (Mays & Pope 2006). Validity through triangulation can

also use strengths within one approach to compensate for weaknesses found in another (Mays & Pope 2006). However inconsistencies between different sources of data (such as between consultants and patients) can also present the researcher with the difficulty of negotiating between differing accounts (Silverman 1993). Hence a more appropriate way of considering triangulation is to view it as enabling a more comprehensive or reflexive account of the data as opposed to testing its validity (Mays & Pope 2006). Triangulation is the most widely used method in qualitative research to check factual accuracy (Mays & Pope 2006, Stiles 1993).

3.7 Analysis of qualitative data

Qualitative studies usually produce voluminous amounts of data as a result of transcripts from interviews or discussion groups as well as notes regarding observations made at the time of interview. The material at this stage is usually unwieldy and unorganised and in need of management, which in itself is a lengthy process (Marshall & Rossman 1995)

The analytic method needs to facilitate the researcher in achieving the maximum potential for an analysis which is full and reflective. Hence important analytic features should enhance the ability to display and facilitate ordering; allow between and within case searches; permit transparency and flexibility to others; ensure that emergent ideas and concepts remain grounded with the original data. Further any organisational and conceptual structure should permit the researcher to have an overview of all the data, whilst at the same time having the ability to carry out a variety of analytical tasks to make sense of the data. The structure should allow the researcher to

continuously and iteratively move between the original data and the interpretations, abstractions and conceptualisations drawn from them (Ritchie & Lewis 2003).

3.7.1 Framework analysis

Framework originated at the National Centre for Social Research in the 1980's (Ritchie & Spencer 1994, Ritchie & Lewis 2003). A central component of the method is the 'thematic framework' (Ritchie & Lewis 2003) which allows for the classification and organisation of data into key themes, concepts and categories. A thematic framework is developed with main themes which are then divided into sub-themes. During the familiarisation process with the raw data and labelling within a cross section of the data, the themes start to evolve and become more refined. Each main theme is 'charted' within its own matrix once the framework is considered to be comprehensive. Each participant is given his or her own row and each column consists of individual sub-topics. Synthesised data from each case is then allocated within the appropriate sub-topics of the thematic framework.

3.7.1.2 Familiarisation, identification of recurring themes and using a thematic framework

The first stage requires the analyst to familiarise themselves with the relevant data once more, by re-examining the sampling strategy, the research objectives and looking for gaps in the evidence collected. Emerging concepts and recurrent issues are logged (Ritchie & Spencer 1994). The analyst may also reflect on details of the methodological process such as the atmosphere during interviews and the ease or

difficulty encountered whilst exploring the subject area (Ritchie & Spencer 1994, Ritchie & Lewis 2003). Recurring themes including the impact of particular behaviours, views and attitudes need to be identified at this stage and the topic guide revisited, so that a conceptual framework or index can be developed. (Ritchie & Spencer 1994, Ritchie & Lewis 2003).

Once the recurring themes have been identified an overall framework is developed where the themes are sorted and grouped under broader higher order categories (Ritchie & Spencer 1994, Ritchie & Lewis 2003). When the thematic framework or index is systematically applied to data in its textual form it is referred to as 'indexing' (Ritchie & Spencer 1994). Transcripts of group and individual interviews have mainly benefitted from this method of indexing (Ritchie & Spencer 1994). A numerical system or text based system is used to reference themes during the indexing process (Ritchie & Spencer 1994). During this process similar language to that of the data set should be used by the analyst as it helps keep the data grounded (Ritchie & Spencer 1994).

Devising and refining a thematic framework requires thinking which is logical and intuitive. Opinions about meaning, relevance or importance of material and connections about emerging concepts have to be made and identified by the analyst. Subsequent retrieval and exploration becomes more manageable as a result of indexing. As a result an over elaborate index would hinder an overview of all the categories (Ritchie & Spencer 1994). Hence it is important to construct a manageable index of the themes and to identify links between categories and to group them thematically. These should then be sorted hierarchically in terms of the main and sub-

themes. It is vital to have conceptual clarity at this stage. Areas of overlap between sub-themes should be avoided (Ritchie & Lewis 2003).

3.7.1.3 Labelling the data

Meanings and the significance of ideas are taken in to consideration when applying an index. Each paragraph has to have meaning applied to it by the analyst and it has to be recorded using the appropriate index (Ritchie & Spencer 1994). The index displays the theme or concept being referred to in a part of the data just like an index system used in text books (Ritchie & Lewis 2003). Indexing with textual data involves reading each paragraph, sentence or phrase in detail and making a decision about its content before applying a part or parts of an index. Indexing can be applied manually or electronically (Ritchie & Lewis 2003).

Effective familiarisation will ensure that the coverage of the index is comprehensive. However, it is possible that the preliminary framework will need further refinement after its initial application to the data. Important categories may need to be added or need sub-dividing as a reflection of recurrent themes or else some categories may be too refined for this early stage of labelling and need collapsing. Any revisions made to the index should be recorded and considered during latter stages of analysis (Ritchie & Lewis 2003).

3.7.1.4 Organising the data according to a theme or concept

The next stage is to build up a picture of the data since the thematic framework would have been applied to all the transcripts (Ritchie & Spencer 1994). Material of similar properties or content are located and sorted out by the analyst at this stage, allowing for distinctions and details from the data to be unpacked. If a thematic approach is adopted for the layout of charts, each key subject/theme has its own chart developed with responses of four or five participants entered within each chart (Ritchie & Spencer 1994). An essential point of this process is to ensure that cases are kept in the same order so that it is easier to review the whole data set for each participant (Ritchie & Spencer 1994).

It is important to note that sections of material should not be removed in an irretrievable manner during charting. Original context or location of material can be lost if previously used methods of cut and paste are adopted (Ritchie & Lewis 2003). Data is synthesised and abstractions made during the charting stage. Once referenced each passage is studied, summarised and entered into the chart or matrix (Ritchie & Spencer 1994). The original text should be referenced so that tracking the original source is easy which will enhance the process of abstraction. Finally quotations should be referenced using page numbers at this stage (Ritchie & Spencer 1994).

3.7.1.5 Summarising data

Summarising or synthesising the original data is the final stage of analysis. This reduces material to a manageable level and entails the early stages of condensing the

evidence for illustration later. Before considerations are made in terms of meanings and relevance to the subject matter (Ritchie & Lewis 2003) or interpreting the whole data set (Ritchie & Spencer 1994), each word from the original material has to be inspected by the analyst (Ritchie & Lewis 2003).

In order to retain the essence of the original material, three requirements are essential. Firstly the participant's style of speaking should be maintained by retaining key terms, phrases and expressions used by the participant. Secondly, the analyst should avoid interpretations or else keep them to a minimum. This will enhance the ability to revisit original 'expressions' once more refined levels of analysis occur. Finally, inclusion of material which is unclear should not be dismissed as clarity of where it should be included may become more apparent later (Ritchie & Lewis 2003).

3.8 Sampling Methods

3.8.1 Purposive sampling

Unlike quantitative samples, which are drawn to represent the characteristics of a wider population, qualitative samples are drawn with the aim of representing a range of specific characteristics of interest for a particular study. Those characteristics selected as the basis of this sample will be guided by specific criteria which are important to the research question (Ritchie et al 2003) and may include ethnicity, gender, age, socioeconomic position and health care seeking behaviour. It is referred to as a purposive sample because the sample has the 'purpose' of representing a key type of behaviour, attitude or response to a particular criterion (Ritchie et al 2003).

3.8.2 Defining the ethnicity of the sample

The purpose of the present study was to explore how South Asians and Whites would expect to respond if they suffered chest pains. The term British South Asian was used to describe all those participants with ancestry in India or Pakistan only. This is because the sample did not consist of participants from Bangladesh or Sri Lanka. The main South Asian religious group which participated in the study was Sikh (refer to sample characteristics, section 3.11.1). British White referred to all those participants from the United Kingdom which specifically included England, Scotland and Wales. There were no Irish participants. Ethnicity hence referred to ancestry, religion, language, culture and social background (O'Loughlin 1999). Attitude formation which affects health care seeking or response to symptoms of chest pain would have been shaped by the impact of a combination of all these factors. The study has differentiated between Whites and South Asians because findings from Chaturvedi et al (1997) reported that there were distinct differences in response to seeking care between Whites and South Asians (Chaturvedi et al 1997) and the present study wanted to delve deeper into these findings.

3.8.3 Approaches to purposive sampling

Numerous approaches are available within purposive sampling so that the researcher is able to yield the study sample most appropriate to his or her study aims. For the purposes of the present qualitative study a description of stratified purposive sampling (Patton 2002) will be given. The aim of this approach is to choose groups which have

shown variation in their response to a specific phenomenon. However, in-order to compare sub-groups each group has homogeneity (Ritchie et al 2003).

3.9 Sample size

Samples within qualitative research tend to be small. Appropriate sampling and data analysis will result in data saturation, where little new evidence is attained, following approximately 40 interviews. The reason for this is that notable phenomena only need to arise once for it to be included within an analytical map. Therefore increasing the sample size does not necessarily yield more data and can be repetitive (Ritchie et al 2003). Secondly qualitative research does not attempt to report about the prevalence or incidence of particular behaviours, attitudes or response to phenomena. Hence there is no need for a large scale study involving numerous participants, because estimates or significance levels for particular variables are not sought (Ritchie et al 2003). Further qualitative research usually yields rich data within each separate transcript. As a result the sample size needs to be kept small in-order to deliver a report which has done justice to each bite of data. Finally there are the practical issues such as available resources which need to be considered when conducting and analysing qualitative interviews, focus groups or observations. Having an excessively large sample size would be impractical and unmanageable (Ritchie et al 2003).

3.10 Sample populations

A key consideration in the development of a study involves a decision about what or whom the sample should consist of. This leads to the selection of the sample from a

specific information source or sample frame which is also referred to as the parent population. When defining the population, three questions need consideration. Firstly what is the central position of a particular group or subpopulation within the research question and how best can this population provide rich and relevant data. Secondly, should certain participants be excluded due to the nature of the study? For example it may be considered inappropriate to include children within studies on divorce. Finally is there a need for the inclusion of additional groups or subpopulations because they would contribute positively to discussions as a result of their experiences and attitudes (Ritchie et al 2003).

3.10.1 Sample frames

Having determined which population will be selected for the study, the next stage involves a decision about a suitable sample frame. This sample frame will act as the parent population from which the study sample will be chosen. Any sample frame is judged in terms of important criteria. These reflect on its ability to: (1) provide specific information about populations in-order for them to be selected for the study; (2) include a range of dimensions, groups or constituencies which are pertinent to aims of the study; (3) provide a potentially large sample from which high quality selection can be achieved, given the fact that some participants may not be eligible to partake in the study and others may refuse to participate; (4) be ordered and easy to manipulate in-order to select specific criteria which will define the population and influence which participants are selected to participate in the study. For example the sample frame would need to have names, addresses and telephone numbers so that potential participants could be contacted. Further geographical proximity to each

other would be important especially if focus groups are intended within the study or else in-order for efficient field work to be conducted (Ritchie et al 2003).

Two main types of sample frames are usually available for researchers. These include information sources or existing lists. For the purpose of this review existing information sources and more specifically survey samples will be discussed in detail. For information on other information sources refer to Ritchie et al (2003).

3.10.2 Survey samples

If survey samples are easily accessible they can act as an effective sample frame within qualitative research. This is usually a viable option if the quantitative and qualitative study is simultaneously conceived or where the objectives within each approach are similar. The sample frame from a survey is more likely to be representative which would be useful even within qualitative research because it would generate a comprehensive, diverse list of participants with little bias. Of course this diversity would only be possible if the original survey sample was statistically representative. It is important to note that qualitative research itself does not require statistical representation (Ritchie et al 2003).

The following section will outline the methodological process involved in conducting the qualitative study.

3.11 Sample Selection

A purposive sample was selected from the survey sample of 1500 participants who had completed both parts of the health and lifestyle questionnaire (Chaturvedi et al 1997). This sub-sample was selected to take part in either a focus group discussion or a semi-structured interview. A randomising table was used to select participants for the study. This is a sheet of paper with numbers on it and each respondent is selected by randomly placing a pen point anywhere on the page. Each digit on the sheet of paper is an independent sample from the population in which each digit has a 1 in 10 probability of been selected. The random numbers table has been used by others conducting qualitative research (Farooqi et al 2000).

3.11.1 Sample characteristics

The sample included South Asians and Whites of both sexes. Surnames were used to indicate religious affiliation amongst South Asians only. It became clear that more Sikhs than any other South Asian group took part in the study (refer to table 2 and table 3 below). Participants were aged between 35-55 years old from the Southall and Greenford area. Participants spoke a number of languages including English, Punjabi, Hindi and Urdu. Most participants were fluent in English. However a minority of interviews were conducted in Punjabi (which I am fluent in) since it was the preferred language amongst some participants.

Table 2: South Asian interviewee religion

Ethnic group	Male	Female	Total
Sikh	8	8	16
Hindu	1	2	3
Muslim	1	0	1
Total	10	10	20

Information about occupation was not collected during the qualitative interviews; however for a minority of White and South Asian participants this information was available. Within the Sikh male interviewees there was a professional clothes designer, computer operator educated to degree level, a post office worker and a bus driver. The Hindu male was an accountant. The Sikh female interviewees consisted of a full time mum and a shop keeper. Within the White male interviewees there was a university librarian, graduate insurance salesman, two policemen and a company director selling pneumatic drills. Amongst the White female interviewees there was a paediatric nurse and a midwife.

3.11.1.2 Focus group characteristics

The focus groups were homogenous for ethnic group and sex and heterogeneous for social class, age and past history of chest pain.

Table 3: South Asian focus group religion

Ethnic group	Male	Female	Total
Sikh	5	5	10
Hindu	1	1	2
Muslim	0	0	0
Total	6	6	12

Information about occupation was not collected during the qualitative focus groups; however for a minority of White and South Asian participants this information was available. The South Asian male focus group consisted of a Sikh homeopath with a Masters degree and another Sikh who worked for the local council. Of the South Asian female focus group, two Sikh females worked in a factory, one worked in a tea factory and the other in a tube making factory for medicine. The White male focus group consisted of a teacher and a policeman. The White female focus group consisted of a business woman, a mum educated to degree level about to return to work and a VDU operator.

Those who took part in the focus groups were not eligible to take part in the individual interviews. Two South Asian women and three White women who had been unable to attend a focus group discussion, agreed to take part in a face to face interview instead.

3.12 Data collection

Two methods of data collection were employed, which included 40 face to face semi-structured interviews and 4 focus groups discussions consisting of 5-6 participants in each group. All the focus groups and semi-structured interviews were conducted by me personally. However, during the White focus groups an observer moderator as discussed earlier (Marshall & Rossman 1995) acted as a non-participating observer. The observer moderator made additional notes regarding the focus group participants and was involved with the group's seating arrangements and refreshments so that the initial introduction to the study environment was as natural as possible.

3.13 Ethics and consent

Ethical approval for the qualitative study was obtained in 1995 prior to my involvement with the study from the Local Research Ethics Committee at Ealing Hospital. The principal investigators received the original letter of ethical approval but this letter is no longer available. I have personally spoken to the chairperson of the committee which gave ethical approval for the project and confirmed that approval had been given for the study but that they were unable to provide me with a copy of the approval letter.

3.14 My contribution in the research process

Data for this study was collected in 1996. There has been a delay between data collection and the completion of this thesis because I have had 3 children during the course of my studies.

I was involved in both stages of data collection for this study. This thesis will only discuss the qualitative study in detail since I had greater input during this phase of the research. The first stage was a quantitative study involving data collection from 1500 participants. I contributed to the design of the questionnaire although the exact wording of questions had been decided upon prior to my involvement. I organised the translation of the questionnaire from English into Punjabi, Hindi and Urdu. I organised the large mail out to all participants and followed up any non-responders to the postal questionnaire. I trained students to follow up non-responders and complete questionnaires on the doorstep. I also personally helped a large proportion of non-responders to complete their questionnaires on the doorstep. I was not involved in the data analysis or the dissemination of the quantitative findings.

This is a follow up study to the quantitative study. The principal investigator had made a decision about the number of face to face interviews and focus groups which were to be conducted prior to my involvement. However, I conducted the sampling method used to select participants. The principal investigator and I were both equally involved in the development of the topic guide used for all the interviews and focus groups. I personally conducted all 40 face to face interviews and all 4 focus groups. Where necessary I conducted interviews in Punjabi and then translated them into

English. I transcribed almost all of the interviews and focus groups. I also wrote up notes about each participant enabling me to identify the context within which each interview or focus group took place, including mood, environment, rapport, personalities and biases; all of which can affect the interview or focus group process.

I solely developed the thematic framework, carried out the analysis, interpreted the findings and wrote up the report. Being involved with the collection of the quantitative and qualitative data gave me more depth of understanding in terms of the process involved from conception of the idea, the original data collection and the present study. I have a clear idea about the context within which the data was originally collected and the context within which it has been analysed as I have played an integral part in all aspects of it.

3.15 Contacting the sample for the focus groups

Potential White and South Asian participants were contacted by invitation letters and invited to participate in a discussion group (appendix 3). However a more personal approach was identified to improve response rate amongst South Asians. As a results letters to South Asian's were followed up with phone calls, however since most South Asians were x-directory, a personal visit was made to their home address where they were informed of the study and asked if they would be willing to participate in a group discussion.

Once individuals had agreed to take part in the focus group, they were phoned to confirm details about a time and date that suited everyone. This was followed by

letters which included details of a local community venue where the focus group would take place. (Whites were invited to Greenford Town Hall and South Asians were invited to The Dominion Centre in Southall). All women and men were contacted a night before interviews by telephone reminding them of the discussion group the next day. The focus groups consisted of 5 White females, 6 White males, 6 South Asian females and 6 South Asian males separately.

3.15.1 Contacting the sample for the interviews

White and South Asian participants under consideration for the semi-structured interviews were contacted by invitation letter (which included details of length of interviews as well as a vague idea of central topics to be considered, appendix 4). They were asked if they would be willing to participate in an interview. Once letters had been returned the White sample were contacted by phone and arrangements made for the interviewer to visit them at their home or for them to come to the office and be interviewed. The South Asians did not respond to invitation letters. The majority of South Asians were x-directory which meant they had to be contacted at their homes. South Asians mostly agreed to participate once a more personal approach was adopted. One White woman was contacted by phone as she hadn't responded to the invitation letter and she agreed to take part in the face to face interview.

3.16 Themes for focus groups and face to face interviews

Emerging themes from the questionnaire were used as a basis for the questions used during the discussions. The exact phrasing of these questions was piloted on

volunteers before starting the focus groups. The questions used for the face to face interviews and focus groups were quite detailed with specific questions relating to the following topics (appendix 5).

Exploration about how people view their health

Perceptions about primary care services and use of GP services. Whom do people turn to when discussing health? How views and fears about health are discussed with people other than their GP? Understandings about health advice.

Why don't or why do some people go and discuss their health with their GP/ other health professional. Which factors influence people's decisions to seek care?

Hypothetical response to symptoms of heart disease and expectation from the health service in terms of care.

Emotional and practical response in an emergency situation following a heart attack. Descriptions of previous experience of heart disease.

3.17 The focus group

Each focus group lasted 1-2 hours and was tape-recorded. Each discussion was transcribed and analysed as soon as possible after the discussion was completed. The discussion group was conducted in the most appropriate language and particular questions covered, as shown above.

3.18 Individual semi-structured interviews

Forty face to face interviews were conducted; half were with White participants and half with South Asians; 20 males (10 White and 10 South Asian) and 20 females (10 White and 10 South Asian) from both ethnic groups participated. All the interviews were in-depth and each took 35 minutes - 1 hour. The majority of the interviews were conducted in the participants own home. The interviews were guided by the themes which had been derived from the survey (Appendix 6). They were a first attempt at conceptualising and were added to from time to time through the course of the interviews. The interview moved naturally from topic to topic and an attempt was made to maintain a feeling of an interesting conversation.

The interviews were tape-recorded where permission was granted. One South Asian female refused permission to be tape-recorded. As a result notes were taken throughout the interview and then read back to her for confirmation that all her comments had been recorded appropriately. Another interview with a South Asian female had to be abandoned because she became distressed about her health and stated that she was suffering from depression. The interviewee was dealt with in a sympathetic manner and I stayed with her until she was calm ensuring she was happy for me to leave.

Minutes were taken at the end of each interview so that ideas which had developed during the interview could be noted and factors which may have affected the interview considered. The tapes were predominantly transcribed by me and I read through all the transcripts to ensure everything on the tapes had been included.

However due to timescales involved it was not possible to transcribe each interview before conducting the next one. This would have been particularly useful for identifying emerging views and may have highlighted the need for additional themes or ideas which could have been discussed within subsequent interviews.

3.19 The process of analysis

3.19.1 Familiarisation

Having familiarised (Ritchie and Spencer 1994; Ritchie and Lewis 2003) myself with the data which involved revisiting the research objectives, reading through all the data, re-examining my sampling strategy, looking at the profile of the participants and looking for gaps in the data (Ritchie and Lewis 2003) six index charts were developed. At this stage discussions about the main themes of each chart were conducted with a trained qualitative researcher. These discussions lead to changes to the main themes of each chart and gave more clarity to the meanings of each subcategory. Having made the appropriate changes meant indexing was easier to conduct.

3.19.1.2 Chart 1 - Understandings of health

The theme for the first chart addressed ‘understandings of health’ with subcategories exploring meanings attached to health, the time spent thinking about health, factors which influence health, ways of staying healthy, stress and health and age and health. However, some subcategories were collapsed since they were not producing data.

These were alternative medicine which produced little response and healthy lifestyles which was mentioned within other sections and so combined into the subcategory ‘factors influencing health’. The index charts are shown below.

Chart 1 – Understandings of health

- 1.1 What health means
- 1.2 Time spent thinking about health
- 1.3 Factors influencing health
- 1.4 Ways of staying healthy
- 1.5 Alternative medicine
- 1.6 Age and health concerns
- 1.7 Need regular check-ups
- 1.8 Stress and health
- 1.9 Healthy lifestyle
- 1.10 Environment and health
- 1.11 Pollution and health
- 1.12 Other
- 1.13 Following a healthy lifestyle
- 1.14 Aware that there is a need to make healthier choices
- 1.15 Inability to make healthier choices
- 1.16 Karma and health
- 1.17 Genetics and health
- 1.18 Ethnicity and health
- 1.19 Social class and health

3.19.1.3 Chart 2 - Response to ill health

The second chart explored ‘participants response to illness’ and included subcategories which considered participants first point of contact following pain and aspects of the GP patient encounter including attentiveness of the GP, the ability to understand and communicate effectively with the GP, the time pressures associated with the consultations, decisions which prompted a response to pain, whether patients would seek a second opinion if they felt they required it and their ability to seek private health care. Once again some subcategories were merged or collapsed during analysis since similar material was being reproduced in each subcategory. For example perceived time pressure and attentiveness of the GP were merged because similar information was being produced.

Chart 2 – Response to ill health

- 2.1 First point of contact when ill
- 2.2 GP patient communication
- 2.3 Ability to explain health to GP
- 2.4 Attentiveness of GP
- 2.5 Understanding of GP explanations of health
- 2.6 Perceived time pressure when visiting GP
- 2.7 Wasting GP time
- 2.8 Gage severity of situation
- 2.9 Factors affecting decision to visit GP
- 2.10 Ask for second opinion
- 2.11 Type of service provided by GP practice

- 2.12 Go private
- 2.13 Ability to change GP if unhappy with present GP
- 2.14 Time taken at GP practice
- 2.15 Factors affecting decision to visit A+E
- 2.16 Arranging appointments
- 2.17 Time taken before visiting GP
- 2.18 Delay getting referral to hospital
- 2.19 Frightened/not confident to ask for a second opinion
- 2.20 Have to put up with waiting to see GP
- 2.21 Time taken at A+E
- 2.22 Amount of time GP spends explaining health
- 2.23 Put up with poor health service
- 2.24 GP understanding what you say
- 2.25 GP negligence

3.19.1.4 Chart 3 - Understanding of chest pain

The third chart explored ‘understandings of chest pain’ with subcategories referring to the expected response by the GP, interpretation of chest pain, response to continued chest pain and where patients felt people should go following chest pain.

Chart 3 - Understanding of chest pain

- 3.1 Expectations of GP in response to chest pain

- 3.2 Interpretation of chest pain symptoms (heart attack, blood pressure, indigestion, stroke)
- 3.3 Response to continued symptoms following GP visit
- 3.4 Where to go following chest pain
- 3.5 Social class and response to chest pain
- 3.6 Expectation of patient following chest pain
- 3.7 Reasons people don't respond to chest pain
- 3.8 Reasons for chest pain

3.19.1.5 Chart 4 - Understanding heart disease

The fourth chart explored 'understandings of heart disease' with subcategories referring to causality, perceived prognosis, type of sufferer, perceived severity and meanings of heart disease. However, again, several of the subcategories were collapsed including type of sufferer, perceived severity and perceived prognosis.

Chart 4 – Understanding heart disease

- 4.1 Causality
- 4.2 Prognosis (perceived)
- 4.3 Type of sufferer
- 4.4 Perceived severity
- 4.5 Meanings of heart disease
- 4.6 Previous experience

3.19.1.6 Chart 5 - Response to symptoms of heart attack

The fifth chart explored 'response to symptoms of a heart attack'. Subcategories included first point of contact following a heart attack, type of treatment expected and ability to identify heart attack symptoms

Chart 5 - Response to symptoms of heart attack

- 5.1 Response to heart attack
- 5.2 First point of contact
- 5.3 Other
- 5.4 Make lifestyle changes
- 5.5 Type of treatment expected
- 5.6 Ability to identify heart attack symptoms

3.19.1.7 Chart 6 – Views about GP

The final theme for chart six was unexpected as questions directly relating to the theme were not asked during the interviews or focus groups but occurred spontaneously during the interview and focus groups. The theme which developed referred to 'views about the GP' with subcategories about the ability to trust the GP, the status of the GP, the GPs workload and expectations from the GP.

Chart 6 – Views about GP

- 6.1 Ability to trust GP
- 6.2 GPs there for own personal gains

- 6.3 New young GPs more attentive
- 6.4 Very busy GPs with large workload
- 6.5 GP treated as superior
- 6.6 GP should do more to encourage healthy lifestyle
- 6.7 High expectation from GP
- 6.8 Reasons for staying with GP
- 6.9 Doctors responsibility to check you properly
- 6.10 GPs make patient ill
- 6.11 Insensitive GPs
- 6.12 GP doesn't give right medicine
- 6.13 Other

3.20 Conclusion

Forty qualitative interviews and 4 focus groups were conducted with South Asians and Whites. The sampling frame used to identify the sample was a survey of 1500 participants (Chaturvedi et al 1997). The strategy used for selecting the participants was purposive and stratified. Interviews and focus groups were transcribed and ordered using a matrix based method referred to as framework analysis (Ritchie and Lewis, 2002). The epistemological theory used to guide the analysis was social constructionism. The next chapter will describe the results obtained.

Chapter 4 – Participants initial definitions of health and the factors which they described as causing heart disease

4.1 Introduction

An initial first step towards understanding how participants interpret and respond to angina involved asking participants to define general health. These definitions would be used to develop a pathway for understanding how the different definitions of health would impact upon health care seeking behaviour following chest pain. This chapter begins by considering definitions of health with particular emphasis on health as a lifestyle, health as being well or unwell and health as function. This is followed by more specific factors which participants described as affecting their health and causing heart disease.

4.2 Health as a lifestyle

My research interests were known to the participants since they had already completed questionnaires with specific questions relating to heart disease. Therefore despite the wording of preliminary questions directing participants to discuss general health, deeper analysis highlighted that participants had embedded concepts of diet, exercise and lifestyle within their definitions of heart disease.

Living a healthy lifestyle, eating a healthy diet, getting exercise, looking after yourself

(4394 – Maria, White female, individual face to face interview).

An ¹action oriented approach was adopted amongst participants who positioned themselves as having a personal responsibility for their own good health.

Not doing anything that should really er jeopardise what you have got, so you mustn't abuse what you've got. So you eat sensible foods. Um I don't smoke any more, er, I don't drink excessively, I think they are all important things to being healthy... these things can damage your health. Same with the wrong foods as well.... I eat a bowl of bran every morning without fail.

(6007 – Richard, White male, individual face to face interview).

There were particular ways in which religious observance could encourage a healthy lifestyle amongst South Asian people

We eat a proper diet and live a healthy lifestyle... we are vegetarian.... Because we have become orthodox Sikhs. However, we never ate meat from the beginning I have given up these things sugar, butter... Because I have got too much arthritis.... Because then I get fat if I eat butter.... Doctors here don't stop you; you have to do it yourself.

(2665 – Harpash, South Asian female, individual face to face interview).

South Asians also focussed their arguments around the effects of living within the UK and how this had impacted on their lifestyle which included their diet and subsequent health. Living in Britain required eating 'properly' and taking vitamin supplements which had not previously been necessary.

¹ Action oriented language ensures that certain things happen. Hence the participants describe the actions taken in-order to maintain health.

Especially in this country, I think you do require, you know, proper vitamins and stuff. I will have a proper snack and I make sure I have a proper breakfast every day.

(4347 – Neelam, South Asian female, individual face to face interview).

Having discussed the importance of a healthy lifestyle, participants, regardless of ethnicity or gender, went on to describe health in terms of being well or unwell. The concept of being ‘well’ was used to define an ability to function without a major disease or illness whilst being ‘unwell’ defined those with a major disease or illness and an inability to function.

Obviously, it’s important for ones health to be good.... My mother has osteoporosis, I see her as not having a lifestyle. I think I am reasonably healthy and I can more or less do what I want to do at my age. Whether I am fit enough is a different matter but I think I am healthy enough, that’s what I think being healthy is.

(6072 – Frank, White male, individual face to face interview).

Frank describes health in terms of malfunction. His discussion of being ‘healthy enough’ if not ‘fit enough’ offers an interesting contrast to earlier discussions of health as lifestyle. Others made a distinction between having a major illness or not. Major illness was a problem, both in terms of functioning in the present and ability to remain comfortable and healthy in the future.

How well you are. Whether you are ill or whether you are well. If you have got any long term problems or health problems.... Well if you are well you have got nothing

particular wrong with you, apart from the odd cold or whatever, but ill health if you have got a complaint such as a heart problem or high blood pressure.

(4091 – Janet, White female individual face to face interview).

That I am absolutely well. I have no problems, I am about 54 years old and I have no problems, I am comfortable and healthy. Health means that you are comfortable in yourself, nothing hurts, you don't have a serious illness/disease.

(2237 – Satwant, South Asian female, individual face to face interview).

Health as being without a major illness was discussed particularly amongst those without longstanding health problems.

4.3 Health is about being able to do everyday activities

Health was important for allowing participants to partake in everyday activities and they discussed health in terms of function. They described how their lives could become hindered if they were unable to perform everyday functions. Health held a particular importance for those with physically demanding occupations.

It's work wise, its very important, I mean, if you are not healthy you cannot do certain jobs, and you only can do limited jobs even those is a question always, are you healthy? If no, then straight away you are very unlikely to get a job, so I mean to keep a practical job you have to... look after your health..

(2780 – Dalbir, South Asian male, individual face to face interview).

Health means that if you have good health you can do good work, you can walk about, you can work well

(2853 – Manjit, South Asian female, individual face to face interview).

White participants described function in terms of everyday activities. Work was not described as a primary reason for fulfilling function as it was for certain South Asians.

I suppose being able to do all the things that you would want to do, er, physical things, that you would want to do, in your life. In other words, being able to do all the human functions that you would expect to do, to walk, to run, to speak, to eat without any constrictions, and everything around that.

(6200 – David, White male individual face to face interview).

Not being limited by illness or well, yeah illness, sickness, disease, things going wrong with you.

(4485 – Julie, White female, individual face to face interview).

Whilst initial definitions of health suggested that the most important aspect of health was its impact on functioning, a challenge presented by Steve (White male) made it evident that this position was not clear cut. Steve presented an alternate perspective as he told the focus group that he had suffered disease but was still able to function and felt healthy. Steve's story encouraged the White males to rethink and redefine their definitions of health, to include participants with disease or illness if they were able to function. These definitions sustain the norms and values of British culture, where an individual who is able to work regardless of illness is still considered healthy.

I have got quite a few diseases and things wrong with me but I am able to work and ...am able to continue living.... I had shingles a couple of years ago and I have got fairly persistent neuralgia as a result of that but basically, I consider myself to be healthy.

(6481 – Steve, White male focus group).

Health as functioning, irrespective of the presence of disease or disability was also considered by other participants.

Being able to be your normal self, so if you are a disabled person you can still be healthy, not being stopped from doing the things you want to do.

(4485 – Julie, White female individual face to face interview).

The relationship between disability and functioning could be related to the environment in which people function. A lack of step free building access, for example may prevent an individual from fulfilling practical tasks and limit their functioning but this does not make them unhealthy. Thus an inability to function does not necessarily equate to poor health since factors other than health may affect an individual's ability to carry out work related or social activities.

As stated the White male focus group explicitly considered alternative definitions for health following Steve's account of his health and work status. They developed a new definition of health which was idiosyncratic to them. The discussion which led to a change of definition exemplifies how accounts available to be called upon within the focus group affected the way participants nuanced their discussion once challenged by

Steve. This shows the breadth of definitions and how accounts are built up within everyday social encounters. The new definition included the notion that one could be described as healthy despite disease, illness or disability, if they were able to continue functioning.

Maybe people feel, maybe things are wrong with them and they are still able to fulfil all the things that they can within their capabilities.

(6201 - Fred, White male focus group).

These ideas of function despite disease were followed with an exploration of alternative approaches to health such as strength of mind and good health.

But that's 50% of your health, isn't it, the state of your mind. I mean people tend to think of health purely as a physical thing, well it isn't, it's a whole within yourself, as this gentlemen said, with disabilities and whatever...they may have lost a leg or whatever, they are still healthy, they look forward to each day, they are able to function as they want to therefore I would classify them as healthy

(6560 – Tim, White male focus group).

This holistic conception of health as a combination of physical health, mental health ('state of mind and body') and functioning is an example of how health is not always considered from a biological criterion but can be viewed as a social criterion and defined in respect of particular social expectations. Thus ill health has fluidity and is not a fixed entity, changing according to the social norms and values of the group being studied. Hence amongst White males, health was constructed as involving more

than physical ability: inner strength permitted everybody regardless of ability or disability to continue living a healthy life. By implication the converse of this would be that having a negative state of mind could result in less function and an unhealthy life.

Health was not defined as the state of mind or body by any other group despite participants within the other groups describing friends, relatives or themselves as having had health problems. This may be because the majority had not suffered major disease and so had not considered the potential separation of positive functioning from concepts of illness.

4.3.1 Health as function and old age

White women also considered health as function from the perspective of changing identities and abilities with old age. They discussed the pre-emptive measures they employed to ensure they did not experience the loss of function associated with accidents or illness. These measures related to being more risk averse and maintaining healthier lifestyles. 'Health' deteriorated even in the absence of disease and the ability of the body to function effectively declined.

When I was a youngster it (health) meant nothing.... As you get older, you begin to er, what's the word? Treasure it? Look after it? And it becomes more upward in your mind because things that you could do you can no longer do. You take precautions not to put yourself in situations where you could catch something or in my case because of my weight I have always been very cautious about stairs... where

I put my feet.... You realise that the lack of it (health) or any problems with it can lead to real disability....

4475 – Joy, White female individual face to face interview).

Well I think it is very important to keep healthy specially as you get older, you know, more and more things happen to you, your health deteriorates you know. Your eyes need testing and your teeth need seeing to.... I try and do as much as I can to keep myself fit.

(4118 – Eady, White female individual face to face interview).

Due to the nature of heart disease and its complex aetiology the following section explored the factor's participants considered as impacting on their health and more specifically contributing to heart disease. Discussions included diet, exercise, alcohol, smoking and stress. An ethnic theme arose from the data amongst South Asians relating to the impact of migration on health.

4.4 Maintaining health through healthy eating

A healthy diet was mentioned by the entire sample as important for maintaining health and reducing the risk of heart disease. However, Frank (below) used a different concept within which to define who he was and how he understood his health. He contextualised his views around the notion of 'karma' and validated his unhealthy behaviour within this framework, surrendering to a certain degree, the responsibility of his health and lifestyle to 'karma'.

If your time is up, it is up....There is Karma there somewhere that says I cannot prevent it. I can go in an airplane and that falls, I can't prevent that...I drink, I drive for miles, smoke, go up in planes so there are more chances, but it is not an area I worry about....

(6072 – Frank, White male individual face to face interview).

When discussing diet and health South Asian females began to identify with me as a South Asian female. Their constructions of a traditional diet and health called on me for confirmation as they sometimes said, 'you know'. The positive implications within such discussions by far outweigh the negative. Firstly, I would be perceived as coming from a similar position as them. Perception of our shared cultural background and gender may have encouraged accounts about diet and health to be built up less defensively. They may have constructed their ideas differently with somebody they did not identify with in the same ways. In terms of the negative impact of my ethnicity, South Asian participants may have examined some issues less thoroughly due to assumptions that I would already know about these. My ethnicity needs to be considered in terms of the White interviews and how they conceptualised their views in comparison. None of the White participants included me within their discussions about diet.

The Western medical model and media images of health encourage people to reduce weight in-order to maintain health and reduce the likelihood of heart disease. Manufacturers of food sustain and reinforce such ideas through the production of low fat ready made meals. The responsibility of choosing the 'correct' types of foods and maintaining a healthy weight remains with the individual. Data analysis showed that

within their beliefs about food and health, participants were referring to foods which people might eat when trying to lose weight. Feelings of responsibility for one's weight and feelings of guilt associated with being over weight and unhealthy were apparent.

Well nowadays there's more and more diet food in shops...there's more recipes around that you can eat...maybe things that were unobtainable that you couldn't eat before, if you think are high in fat. They do low fat versions. I think things are more accessible for a low fat diet now. But there again I have always said that diet food is quite expensive...because it is ready available out of the freezer, weight watchers food is very expensive.... Fresh vegetables ...there are more and more recipes where you can use little bits and pieces and put them together.

(4118 - Eady, White female individual face to face interview).

I am far too overweight and that is beginning to tell and I try to take steps about that.... Eating reasonably sanely. The family have an extremely high rate of thrombosis. I try not to eat the incorrect things.... If I want it I eat it but not in excess.... I am permanently trying to diet but of course that all goes down the shoot as soon as I see something I like.

(4475 – Joy, White female individual face to face interview).

The way Joy (4475) constructs her identity is related to her weight, her struggle with food, a family history of thrombosis and the need to be sane when choosing healthy food. Both comments emphasise the role of individual responsibility for weight loss. Low fat food is more 'accessible' than ever before and the health promotion messages

are clear enough that only an insane person would be unable to understand them (as suggested by Joy) and therefore continue eating the ‘incorrect’ foods to ‘excess’. However the guilt associated with a lack of success in the face of what was considered such extensive support had clear implications for Joy’s self esteem, despite her persistent efforts.

South Asian participants also discussed dieting but described it ²using performative sentences which were used to detail the effects of their dietary behaviour.

I don't want weight to go up too much so I eat less when it goes over too much. I have never allowed my weight to go over 10 stones or below 9 and a half stones. When it starts going below 9 and a half stones then I start eating more again. If my weight goes above 10 stones, like now I am 10 stones, I don't eat more than once a day.... I have my diet.... I haven't changed it.... It's been about 26 years. In 26 years I know how some women get fat by eating and eating...after having children, they don't bother to go on a diet again. I've not had such a problem. I have kept my diet, I have kept my work, I have kept my child healthy and myself healthy.

(2853 – Manjit, South Asian female individual face to face interview).

This comment positions diet as a way to keep active and healthy to maintain her occupational and family roles. Food did not command the same presence in Manjit’s life as it did in Joy’s. When specifically probed about dieting, Manjit (2853) completely disregarded the idea as a negative act and as affecting ‘balance’, although

² Performative language or action oriented language refers to a sentence which has a practical outcome. For example controlling *food intake to control weight gain*.

she maintained the perception of a dichotomy between ‘healthy’ and ‘unhealthy’ foods which enabled her to retain a healthy, if varying, weight.

No, no, no I have never been on a diet. I eat healthy food regularly. I have never been on a diet and neither do I think dieting is a good thing. Because...by diet a balance does not remain, sometimes weight goes up and sometimes it goes down.

(2853 – Manjit, South Asian female individual face to face interview).

South Asians also discussed a low fat diet in terms of foods which were considered as ‘good food’. Good food was described as food which was ‘less fatty’ or ‘less greasy’ and could therefore be considered occupying a grey area between foods which were strictly ‘healthy’ or ‘unhealthy’. Ideas of ‘greasy’ or ‘fatty’ foods were associated with butter and oil. However, despite the understanding that certain foods were better for health it was acknowledged that unhealthy fried foods or greasy foods were occasionally eaten although generally avoided. This authorisation (whether by oneself or others) may form a crucial disjunction between the different dialogues here: Joy deriding herself for weakness and even insanity when she deviates from her ‘permanent diet’ while Manjit and Neelam accept that it is acceptable to eat ‘bad’ food sometimes.

I don’t eat foods like that which can affect my health within my family. We all eat the same kind of food. We don’t eat anything with a lot of fat in it or that upsets you (in terms of health)...Sometimes you may eat bad (ganda) food which is very greasy and it affects your health, sometimes you eat dry food which doesn’t affect you at all...Dry food. Less greasy food, meaning less oil or butter.... I have good health, I work.

(2853 – Manjit, South Asian female individual face to face interview).

Try to avoid fatty foods plus fried stuff. It's very difficult, anyway, you know, sometimes fatty but make sure you eat it now and again and not all the time.

(4347 – Neelam, South Asian female individual face to face interview).

The language used to describe unhealthy food had a similar ³interpretive repertoire amongst South Asians that this type of food was '*high in fat*', '*fried*' or '*bad*'. Certain South Asian foods such as 'samosas' are fried and appear at parties so may be difficult to avoid as suggested by Neelam. By describing such foods as unhealthy whilst acknowledging eating this food occasionally the participants were justifying that although these foods were a part of their lives, they generally chose to avoid them due to the fat content. Descriptions associated with unhealthy food included the word '*ganda*'. Literal translations of this word from Punjabi to English mean 'dirty', 'bad' or 'crappy'. Each term has equally negative connotations when used to describe food or any other entity. This 'bad' food was described as affecting health.

4.4.1 Ideas about a South Asian diet

The media and those that work within the entertainment sector, frequently speak of a Friday night curry and often complete the sentence with negative connotations such as 'being sick' afterwards or suffering diarrhoea the next day due to the spices, so-called 'Delhi belly'. This suggestion of sickness and curry could impact on views about this type of food. This is not to say Western food has not suffered stereotypes. However,

³ Interpretive repertoire refers to a cultural toolkit used by individuals' in-order to organise their accounts. Similar terms or figures of speech may be used within the development of such accounts (Burr 2003).

these connotations relate to the bland taste and the fact that Western food is boiled, roasted or grilled, which tend to support dietary health messages. Thus there is a powerful message related to ethnicity and food which is reinforced through the media. As a result, it is possible that South Asians within their discussions about food would build their accounts more defensively in-order to justify the foods they prefer to eat. Health promotion messages used with South Asians have also historically focussed on South Asian diets as unhealthy, involving excessive amounts of oil or ghee.

The benefits and drawbacks of a South Asian diet compared to a Western diet were discussed spontaneously by South Asians. Important notions about types of food and styles of cooking were explored. Nuances about food highlighted a struggle between ethnicity and food. Despite participants stating that they ultimately preferred their 'own' South Asian food they also discussed the negativity surrounding a South Asian diet. Participants focussed on the use of butter during the preparation of curry as causing heart disease. However in contradiction Beena (below) stressed that cooking at home and knowing what went into the food made it healthier.

Indian foods, they are not fatty and you know I think chapattis and if you have curry and you know what you put in the curry, that's fine.

(4615 – Beena, South Asian female individual face to face interview).

Others had constructed ideas about food through interactions with health professionals who had influenced thinking about South Asian and Western diets. The Western method was considered superior amongst South Asians since it was felt to preserve all

the beneficial vitamins found in food. However, contrary to these ideas, there was an underlying feeling that certain South Asian foods were healthier.

That the way we cook especially ghee, they said, is fatter than butter, that's what doctors told me and we use too much especially when you do cooking and the way we cook is different, we don't boil it, we cook it, we boil all the vitamins and you just go for taste only...we don't, we try to keep it low as possible...we use sunflower oil, ...even that...you have got to be sensible. I like chapatti, that's okay if you eat brown flour or medium brown...that is better than bread.

(2780 – Dalbir, South Asian male individual face to face interview).

Any fatty things eat less, eat grilled things. Like at work a nurse told us as I was saying you are telling us chips and stuff to stop everything. She said I don't want that, eat it once a week, not every day.... That is how she explained it to me. I said you are telling us not to eat this thing or that thing. She said the body gets too much cholesterol and then problems occur.... I try (to eat a low cholesterol diet) pause. The remainder we eat what is at home with the family. Boiled things are best they say. Like English food. When I am at work, in the canteen I eat boiled things.... At home we eat lentils and vegetables and chapatti.... We use a little bit of butter for the preparation of a meal. This little, we only use a bit. The rest we use margarine for bread.

(2434 – Ragbir, South Asian male individual face to face interview).

Ragbir's account highlights the powerful position of the nurse who recommended eating grilled foods. Ragbir did not describe any Indian foods which can be grilled.

He may interpret this as suggesting he should predominantly eat English food. This appeared to cause Ragbir conflict between the foods he ate at work and those he ate at home. His description included two very different foods and preparation. The comments of Dalbir and Ragbir suggest that they would benefit from more information directly relevant to dietary practices they use at home.

Mandeep (below) reiterates similar views to that of Ragbir and focuses on the use of butter and fat within cooking.

I think that is why they have got too much heart attacks. And food the way we cook it (preparation). What it is cooked with, oil, butter.... We use butter and cooking oil as well.

(2986 – Mandeep, South Asian male individual face to face interview).

Asian people tend to make curries, I mean they make curries all the time and, you know, we cook with fat, there's nothing more to it than that, you know, you can't make, we don't boil our food, do we, we just, we have to use the same method, which means fat (laugh), and that's why Asian people are more vulnerable.... Asian people use a lot of salt, you know, we don't, English people when they cook, they perhaps make something in the oven, and they tend to sort of slightly put salt but we, we put it by the table spoon (laugh) and salt is another big factor, you know, from heart disease, and umm, its another thing we cant stop, salt. (We cook with) Butter, oil, what ever comes, you know... (I use ghee) to make Indian stuff, yes (pause) I just think margarine is quite inferior to butter and I know margarine is better for you but I still like, I still prefer butter.

(3004 – Seema, South Asian female individual face to face interview).

4.4.2 A high fat diet, cholesterol and heart disease

There was agreement regardless of ethnicity or gender that certain food led to cholesterol and atherosclerosis.

Cholesterol plays a big factor because that again is eating the wrong foods and it furs everything up again.

(6007- Richard, White Male individual face to face interview).

Fatty foods and fats, cholesterol fills up your arteries and they get smaller and the blood doesn't flow the way it should do.

(2492-Baljit, South Asian male individual face to face interview).

Again, there was little sympathy for those who experienced poor health as a consequence of not taking responsibility for their health.

If you have a lifestyle or a diet that is high in fat, it will build up cholesterol, it will block you up and eventually the heart will take no more, and it will simply say no, that's enough and it will attack itself in a sense, it will press the self destruct button. So I think to explain what a heart attack is, I suppose it's a person who has failed to take responsibility for his own health and failed to observe simple basic rules of living.

(6128 – Patrick, White male individual face to face interview).

4.5 Issues relating to alcohol consumption and heart disease

The impact of alcohol was mentioned regardless of ethnicity or gender as a factor contributing to heart disease. However there were differences in terms of specific ideas about alcohol. Whites spoke of the effects of excessive alcohol consumption as well as the benefits of alcohol. South Asian males in particular spoke of the effect migration had had upon their drinking habits. The South Asian females' mentioned alcohol within a general list whilst considering causes of heart disease. They did not discuss personal alcohol consumption in detail. This was indicative of the fact that the majority of South Asian women in the study were non-drinkers, thus alcohol clearly may not have been a feature within their personal constructions of health.

White males used humour within narratives about excessive drinking. The humour may have enabled them to discuss a subject they were uncomfortable about.

I drink er probably more than average. I suppose that's not good either. I think you'd better hurry up with this interview because I may not be here in a couple of hours.

(6156 – Scot, White male individual face to face interview).

I do drink too much really but I don't take any drugs.

(6184 – Robin, White male individual face to face interview).

Reasons for increased alcohol consumption were given by South Asians and Whites.

Try not to drink alcohol too much...I mean I don't drink now but it's best just drink now and again instead of sort of regular drinking. Thing is if it's regular you run into problems with your liver.... Well I was made redundant two years ago and I found I was drinking more because I had time on my hands and it was becoming a problem so I attend, I attend a centre for problem, for people who are problem drinkers or if they think you are drinking too much and it's, it looks at ways for why you are drinking more...that is where I seemed to run into trouble being made redundant. That was two years ago.

(6275 – James, White male individual face to face interview).

James' redundancy had given him the 'time' to drink but it is also likely to have produced stress which put him at risk from 'problem' drinking. Again with reflection on the discussion of food previously, there is a perception that 'problem' drinking and the point at which an individual is drinking 'regularly' and 'too much' can be clearly and unambiguously distinguished from alcohol consumption which is not problematic.

South Asian participants described how the loss of established support networks post-migration encouraged the adoption of less-healthy coping mechanisms, such as alcohol in times of stress.

We may look healthy but I don't look healthy...the day I left my country stress started to follow me, worries, stress (pause), deaths in the family. I was a t-totaller, go to the Gurdwara (Sikh place of worship) everyday, left everything, started drinking, I

couldn't call myself a healthy man ever in my life because this is not health (clears throat) life in this country is so stressful.

(6606 –Manmohan, South Asian male, focus group).

South Asian participants also described the presence of a generally unhealthy ⁴identity in the UK which was difficult to avoid. South Asians explained that they felt pressured to partake in less healthy lifestyles to fulfil social expectations.

It is difficult actually in this country...you have to fight against it and you have to be motivated to eat the right food and not drink too much. There is always pressure, every time you go to a party they expect you to hold a glass in your hand and if you say you are drinking orange juice (laughs) they look at you strangely

(696 -Jaswinder, South Asian male, focus group).

However discussions about reasons suggested for increased alcohol consumption were sometimes contentious and based on presumptions as shown below where Ashvani (below), described the historical and cultural pasts of ‘villagers’ who had come to live in Britain and increased their alcohol consumption. This new way of life was blamed for the present health status of these people whom Ashvani viewed as separate from himself. Ashvani was the only Hindu in the group. Hindus do not traditionally drink alcohol. The other members were Sikh. Non orthodox Sikhs do not have any religious taboos against alcohol.

⁴ Identity in social constructionism refers to a number of threads which make up the individual, such as age, ethnicity, habits, occupation and so on (Burr, 2003).

That's just generally you know...not sort of drinking too much which the Indian people suffer from especially the generation which came in the sixties you know. They came from a community which was basically, they were farmers, especially in Southall and they didn't get, the food they got but the drinking side was still a no no. Although they still brewed their own privately (sniggers) but it was still basically they didn't drink everyday or every other day. They came here and were drinking it regularly, eating a lot of meat which they wouldn't eat there either so their diet went up affecting their health.

(3114 – Ashvani, South Asian male focus group).

Ashvani's comments caused group members to give alternate accounts of the people that he was referring to as well as the way these events took place.

In sixties, early sixties those who came to this country, they were all educated people from Africa and India...and good brass not from villages. When these people came over, sixties, when there were no restrictions....Those who came from villages they were not poor....The drinking, this is not concerned with people's background.

(6605 – Manmohan, South Asian male focus group).

The suggestion by Ashvani that increased access to alcohol encouraged people to drink more did not go down very well with the other group members. However, it was agreed that people should have a balance and not be excessive. Other group members complained of the peer pressure at parties to drink more especially in this country. Would the suggestion that drinking is encouraged more in this country imply that it is discouraged in India? This would certainly support Ashvani's view that people drank

less in India than they do in England. Of course he did mention access to a lot more alcohol which could act as a contributory factor in any country. However this point is challenged by others who discussed the importance of sensible drinking.

Like I hardly drink at all. Even at parties I drink up to the level when I know that's the limit. I don't want to make a fool of myself. That's what I think is sensible drinking. Knowing you know, when you have got to stop...Only at parties and I hardly drink at all. I hardly have enough time anyway to socialise with anyone. I am always looking after my kids. My younger daughter, she is one and it was her birthday...that is the only time I get to drink. Otherwise I don't drink on my own. Like you can see that bottle's up there, you know that was since I was married, that's twelve years back....I just like wine, it's sweeter. I can't take all the other bitter drinks. I can't take er beer, I can't drink lager and I can't touch whiskey or the other Bacardi....I just don't like the taste of it. Maybe if I had liked the taste I might have drunk more...but then as I said, I still drink sensibly, even the wine.

(3373 – Taran, South Asian male individual face to face interview).

4.6 Smoking, health and heart disease

There was no ethnic or gender patterns within conversations about smoking. Smoking was described in terms of its detrimental effects on health and the heart.

My sister in law's dad died in his early 50s of a heart attack, and he smoked a lot. My uncle has had heart bypass, and he is a heavy smoker, and my husband's brother also

had some sort of bypass and he is also a heavy smoker, so I suppose really that to me seems like the first or one of the main causes. Smoking.

(4015 - Barbara, White female individual face to face interview).

However there was also a sense that smoking was not as health damaging as it was reported to be.

Well it is perceived that smoking is bad for the heart.

(Frank White male individual face to face interview).

Smoking was only 'perceived' to be bad for the heart. Again participants described the health problems of 'excessive' smoking. Moreover, for some, excessive smoking appeared only to be considered unhealthy when it occurred in combination with other risk factors such as hereditary risk, excessive drinking or poor dietary habits. Being unable to stop smoking was not reacted to in the same way as being addicted to alcohol or even eating unhealthy food.

So if you combine someone that's eating egg and bacon every day, and smokes 40 a day, and goes down the pub every night after work, he's a very high risk, a very high risk.

(6007-Richard, White male individual face to face interview).

Not smoke too many cigarettes....Excessive smoking is bad for you, and one knows, so you try to keep control over all those things.

(544 – Harjit, South Asian male individual face to face interview).

Participants justified smoking and drinking by adapting a ⁵discursive style of speech which offered an account of an otherwise more health conscious person, such that these negative health habits could be offset by more positive ones. These portrayals allowed individuals to redefine themselves as responsible individuals living healthy lifestyles in spite of smoking.

I smoke and I drink and I regret to tell you I enjoy both. I am sorry to have to tell you, but on that basis I exercise a great deal, I exercise everyday, my diet that Marie gives me is, I think a well balanced diet, I take vitamin supplements, on top of which I take half an aspirin...but yes, I have a high sense of responsibility for my own health.... My view is if I cut out (laughs), if I cut out cigarettes, roll ups and I cut out the drink, I would probably suffer from stress and I would probably be more expensive to the hospital system in a stressful state than I would be in my current state (laughs). And that is how I justify it.... I regret to tell you I enjoy it and er (tuts) I can't see me packing it in, to be honest with you.

(6128 – Patrick, White male individual face to face interview).

Patrick justified a self-perception of a 'high sense of responsibility' for his health due to his frequent exercise, perceptions of a balanced diet (even if this is a responsibility he gives to Marie) and vitamin supplements. He also suggested that drinking and smoking were part of his campaign for good health, as they prevented him from developing stress-related illnesses which he considered more problematic and expensive to treat than those related to alcohol and cigarette consumption.

⁵A discursive approach is adopted by individuals wishing to legitimise particular identities for themselves through use of language which permits them to develop versions of events which validate or excuse their own behaviour. Hence this person is able to maintain credibility and avoid criticism within an interaction.

Frank (6072) below was relying upon his reserve of good health to help him through the lifestyle he had presently adopted.

I drink and smoke and drive quickly.... I don't go out of my way particularly to live a healthy life. My wife will tell you I go out of my way to lead the opposite (laugh) I play some golf, I used to play football and cricket extensively, I used to play squash, so deep down there is fitness...which I rely upon to drag me through.

(6072 – Frank, individual face to face interview).

That Frank could convince himself that a previously active lifestyle could offer health benefits long after it had ended provides interesting insight into the ways in which some people can use health promotion messages to justify their unhealthy behaviours.

4.6.1 The generation gap between parents, their children and attitudes about smoking

Interestingly these justifications for health risk taking were not considered comparable to those used by people considered to be of older generation, despite their clear overlap. Anecdotes by participants about their elderly parents who still smoked described how notions about smoking have changed over time. Participants spoke of their elderly parents as those who chose to ignore the present health messages and stated that their parents justified their behaviours by providing examples of alternate perspectives.

Pretty much everyone from my parents generation will point at somebody who would smoke 60 a day and then over 80 years they are going strong, never had a thing wrong with them in their entire life as some sort of proof that smoking is in fact perfectly okay, the fact that there are people collapsing left and right with bronchitis and emphysema (lung disease) and all sorts of oral things...so you know, just because it is okay for them doesn't mean it's going to suit you.

(6226 - Charles, White male focus group).

My parents both smoke, they both refused to give up, umm, and I try and sort of say, well okay so it might be difficult but if as an end result you get another 5 maybe 10 years of healthy life rather than having trouble with bronchitis and things then surely even now it's a good idea, umm, but they won't have it...I don't pressure them about it, they are in their, they are both about 70, they've smoked since they were in the forces in the war...but with light of modern knowledge, it doesn't make sense to smoke

(6226 - Charles, White male focus group).

The legitimacy of health interventions designed to discourage smoking were questioned by participants who were aware of how health related messages, such as the positive and negative effects of smoking, changed over time.

All these adverts force these things down me and are they good for me?... I have never smoked in my life but both my parents were heavy smokers. My father got throat cancer. My mother...her breathing has been affected, because she lost some of her lung capacity and now she wishes she hadn't smoked At the time it was looked

upon (by advertisers) as a yes, lets push it and there was lots of money pushed towards (advertising) it but maybe it just needs some kind of independent organisation which says no and sort of push that and have the resources.

(6249 - Pete, White male individual face to face interview).

The quote above (Pete) exemplifies how the composition of health messages has changed as a result of historical and social criteria. Previous advertisement encouraged smoking but as the health service became aware of the risk factors so did the health messages. Pete is left with a distrust of advertising campaigns and questions the legitimacy of the messages as a result of his parent's poor health.

4.6.2 The reasons given for becoming an ex-smoker or non-smoker

White males spoke about smoking in terms of being ex-smokers or non-smokers. White females described smoking in terms of something other people did and viewed it as an unhealthy harmful habit. Participants described how they had responded to health messages by curtailing their smoking through self regulation. This shows that smoking interventions have the power to change the behaviour of individuals especially when they think they are in control of their decisions.

I've given up smoking...I think people have become more health conscious than they were 10-20 years ago.... It's on the telly more. Or you are being told to be more health conscious than you were before.... There are more programmes on keeping fit than there were in my youth anyway.

(6184 – Robin, White male individual face to face interview).

Social and economic factors affecting smoking behaviour were illustrated by White males.

I think I am the kind of person who would not smoke. Partly because I am mean and it seems appalling to spend thirty pounds a week on hurting yourself but partly because it does seem to be life threatening. It does seem to be a rather stupid thing to do. But we do know that heavy drinking and heavy smoking go with things like unemployment which I don't suffer from.... If my circumstances were different I don't know whether my behaviour might not be different.

(6304 – Derek, White male individual face to face interview).

Derek, a librarian at university, has constructed his identity as a well educated middle class man. Being '*stupid*' and '*smoking*' would conflict with his ideas about himself. He also recognises that 'heavy' drinking (as was exemplified by James earlier) and smoking can be a response to stress and feels that he has been lucky in avoiding a situation, such as unemployment, which might have encouraged him to smoke.

4.7 Exercise and heart disease

Participants had begun by emphasising the general health benefits of exercise as it helped to reduce stress, maintain good health as well as mental and physical agility, release endorphins and benefit physique. They also pointed out that a lack of exercise could act as a contributory factor for heart disease. A similar gender and ethnic pattern was observed within these discussions.

It's good to keep fit, to keep active and keep your blood moving round your body. So it is very important to me and I try to do as much as I can to keep myself fit.... A lot more exercise actually. More walking, more dancing, aerobics as much as you can fit in for a healthier lifestyle.

(4118 – Eady, White female, individual face to face interview).

To stay healthy you can ...get plenty of exercise. A good 20 minute walk doesn't do anyone any harm, it keeps the blood circulating, it keeps it working.

(6007 – Richard, White male individual face to face interview).

Richard's account above highlights a strong sense of personal responsibility to oneself and health. The focus of Richard and Eady's language is to develop an account about the beneficial effects of exercise in-order to reduce heart disease, 'keep blood circulating' indicating an awareness of thrombosis and the detrimental effects associated with it.

Exercise was adopted by some participants because it helped them reduce weight, heart disease or reduce pain.

I think exercise as well. Definitely exercise. I mean, a lot of, it's been stressed a lot about exercise for the heart, for weight.

(4671 – Angela, White female, individual face to face interview).

Not enough exercise as well because... you get in a car, like my husband.... And he was putting on weight; it was just from not getting enough exercise.... Weekends we try and get out and walk as much as possible.

(4470 – Jane, White female individual face to face interview).

Often changes in levels of exercise were made following consultation with a doctor.

Exercise like the ones that the doctor has told me about for arthritis. I do them everyday from half an hour to an hour in the morning. My legs have veins which are weak so I have to do it for them. I go out for a walk twice a day, I go every morning and in the evening we go again to the Gurdwara Sahib (Sikh place of worship).... Yes plus the fresh air. I don't work so by going out and seeing people I become happy.... I exercise everyday for about half an hour but I only started doing it now, it has only been 10-15 days. Before I just use to do it upstairs for about 10-15 minutes, sometimes doing it sometimes not. Now, everyday.

(2665 – Harpash, South Asian female individual face to face interview).

Harpash's exercise had a dual purpose since it benefited her socially and in terms of mobility, reflecting the mental and physical aspects of good health.

4.7.1 Exercising to reduces stress

Consideration was given to the beneficial effects of exercise in-order to alleviate stress. This point was made amongst White and South Asian people regardless of gender.

I swim and I find that if I am feeling really ooh I go swimming and when I come out I feel absolutely great....It definitely does release these chemicals called endorphins or something into your blood stream.... I used to go swimming a couple of times a week and you just feel, however uptight you are you just do about 20 lengths and you come out and think, I don't care!

(4421 – Penelope, White female focus group).

Yes you should exercise.... We can actually just do this, do exercise especially us ladies, there should be a group where we can go together.... Exercise with which I think if we went for exercise then the stress on our mind would go away for a couple of minutes.

(2371 – Surinder, South Asian female focus group).

Your mind is free (if you exercise)

(4281 – Dolly, South Asian female focus group).

Despite these positive comments, further probing indicated that the South Asian females interviewed tended not to take regular exercise stating that they had other commitments which made this impossible.

Time, you have to work as well. The thing is about time with our people.

(2277 - Kanwaljit, South Asian female focus group).

Social demands and cultural norms affected whether people could exercise. The cultural ties suggested that 'our' people had less time to do social activities than

‘other’ cultural groups. However conversations with these women did highlight a desire to partake in sporting activities.

4.7.2 Negative ideas about sport and the elderly

A negative association was made between old age, exercise, heart disease and death amongst White people in the study regardless of gender. These comments indicated that it was possible to ‘over-exercise’ and that doing so could cause ill health, even death.

Strangely enough a lot of people who need to take exercise can overdo the exercise functions. And people caught out jogging, suddenly, wallop. It's either an attack or there's a problem - they really need to check before they do it. Normally these people are sort of retired, and they shouldn't actually be at that level. They are far better off with a walking machine, if you like.

(6271 – Miles, White male individual face to face interview).

And not enough exercise. They just sit down and go for a little walk. There should be more things for older people. I know it's silly to say older people, because I know young people suffer from heart disease as well.

(4671 – Angela, White female individual face to face interview).

The identity assigned to these elderly people included an inability to complete a sporting task without injury. However, this representation of the elderly was overhauled when Angela’s account developed further with an anecdote about a sporty

elderly friend. This is an example of how the situated use of language can change from context to context. Angela continued by considering the beneficial impact on the heart from early socialisation into sport.

But a friend of mine, he's 74, he plays tennis twice a week - I think he spends about an hour and a half, half an hour swimming, half an hour gym, plus stretching out. He's marvellous. I mean you wouldn't think he was 74.... He doesn't do it because he has to; he does it because he wants to.... If you want to do it, it's there, it's available, but again, you've got to pay for it. I think if you are brought up with it as well as a kiddie, you know, if mum and dad go swimming, and jogging and go to the gym, I don't mean strenuous gym work like weights or anything like that, just something really easy that the child will learn, will grow up with it themselves and then perhaps when they do get older keep it up and perhaps that would be one way as well of reducing heart disease.

(4671- Angela, White female individual face to face interview).

4.8 Stress and heart disease

The relationships between stress and heart disease were discussed by all participants regardless of ethnicity or gender. Factors which were considered as causing stress related to work and family. South Asians spoke of family stress in detail. White women mentioned family stress within a list of factors. White men did not mention family stress.

Talk amongst South Asians was related to the consequences of bringing up children in a manner which was morally acceptable within the South Asian community. Accounts suggested a culture clash between children and parents. Emphasis was placed upon the stress which resulted when the younger generation veered away from the traditional social and cultural norms associated with being South Asian. It can be assumed that the younger generation had their schooling in Britain and were probably more acculturated than their parents. Therefore the social and cultural environment of parents and children was never the same. However, while this notion of different environments and a culture clash between parents and children would be evident within most households, regardless of ethnicity, it was only discussed as being problematic amongst the South Asian participants.

Maybe due to worries, our people have a lot of family problems, Indian people. That's why they get worried, their blood pressure and the associated illnesses.... Our elders (gossip) ...somebody's daughter is divorced somebody's son is divorced (laughs), that's the problem...too many problems.

(2986 –Mandeep, South Asian male interview).

Others well meaning well children affect it as well, if your children are good, do as you say if they don't that gives you depression as well.

(2129 – Sohan, South Asian male individual face to face interview).

People get heart disease because often you may have stress, your children often make you fed up, with that you can also get heart disease.... Nowadays the children of England give you a lot of pressure; with that (pressure) you can also get heart

disease. It is true, us people can't put up with it, we are not English that our children can go out, not come home, doesn't matter. I have seen a lot of people, there is a lady in Old Southall she is by herself, she had 3 daughters, one went with an untouchable (laughs), one went with a Muslim and the other one I don't know, all three of them poor things ran away. And one day I went in front of their house and she (the lady) was asleep on the floor in the dark on the floor. I said to her, "why are you sitting in the dark, haven't you got electricity in the house?" She said, "This is what has happened to me". She died last year poor thing. Because of the pressure of her children she died. If she didn't have the pressure of her kids she couldn't have died. If you are happy in your family then you have less of a chance of getting heart disease.

(2853 – Manjit, South Asian female individual face to face interview).

These ethnic differences appear to be due to the more extreme implications associated with issues such as divorce or intercultural marriages which are considered less problematic in non-South Asian households. 'English' people are considered as less concerned about their children going out late. The social pressure for some Asians to maintain a particular ⁶moral code of conduct meant that the woman described in Manjit's story found it difficult to cope with what her daughters had done. Like Sohan above there is a comparison between the English way of life and the South Asian way of life. Manjit highlights the difference between her ethnic identity and that of an English identity by emphasising that '*we are not English*'. This statement is full of the differences associated with being Indian, including culture, norms, values and socialisation. It is unacceptable for Manjit or Sohan that '*our children*' should behave like White children as '*our*' people have different moral rules about acceptable

⁶ Within discursive psychology individuals use language in a performative manner to account for behaviour within a moral framework which has rules of conduct associated with the local culture.

behaviour. This conflict between the old and younger generation who appear to be adopting more 'English' lifestyles is clearly something that is considered to cause family strain and stress amongst these participants

The majority of narratives about stress and family did not consider the position or perspective of the children. By giving voice and understanding to their children's perspectives, participants may have considered family life in Britain differently. Others developed an identity for themselves as somebody who is prepared to listen to the needs of their children. However, Satwant's account (below) balanced the need to listen to children with the importance of accepting the moral rules and expectations associated with the ⁷local traditional culture.

Some (children) have gone to one caste or another, some like it others don't. But my view is that people shouldn't get pressured by this, if children... but saying it and doing it is very difficult.... Children should think about their parents a little and parents should think of their children a little and parents should move with the times. Like if you want your children to get married you should ask your children their opinion, if they do not agree with you then you should say fine do as you wish and then people should relax themselves.... If you want your child's happiness you should give as well. There are just a few castes which we shouldn't go into otherwise we are all the same aren't we.... If you are happy and your children are in line parents are happy with the children and even if there is a problem you can sit down and solve it. The problems become shared and your pressure is reduced.

(2237 - Satwant, South Asian female individual face to face interview).

⁷ Local culture in this situation refers to a sub-culture of South Asians.

Satwant's discursive repertoire focuses on the compromises made within homes between parents and their children to ensure the voice of each is heard and respected. However her interview is full of contradictions and rules which apply specifically to the younger generation suggesting little compromise on the part of parents. She develops her account by speaking of the fact that '*we are all the same*'. Her use of language suggests ⁸'togetherness' and is used to suggest that there should be no barriers between people regardless of any differences. Satwant uses this strategy to relieve herself of the moral responsibility for any behaviour she displays towards those which she refers to as the '*few castes which we shouldn't go into*'. Thus by stressing notions of togetherness Satwant is able to justify behaviour against these '*castes*' whilst at the same time positioning herself as being morally justified in doing so.

Juggling a work life and family life was considered as causing an additional burden to families, regardless of their ethnic background, particularly when there were financial, social or other problems.

Pressure of work, pressure of family, pressures of not having enough money, pressure of keeping up with the Jones... I mean, some days, if I get what I call stressed out, my chest goes 'eee' like loads of things are crawling over it....It's just everyday life, and the pace of everyday life. You get in the car and you go to work, and the car doesn't work and that's pressure, and I think that is a lot to do with it.

(4470 – Jane, White female individual face to face interview).

⁸ Togetherness is used to sustain notions that there are no barriers or divisions between people and that everybody regardless of creed, colour or status is the same.

Many think it is due to stress.... That heart disease can be due to a person thinking a lot. Stress yes. If a person keeps thinking this and that and about work that people have too much work to do that there are too many problems in people's houses

(2665 – Harpash, South Asian female individual focus group).

Unlike South Asian participants, when White participants discussed stress they didn't delve into cultural problems or the stress of bringing up children, they developed accounts around the everyday problems of life which focussed on the negative effects of work. South Asians also discussed work stress.

I think work stress is the largest threat to my health.

(6304 – Derek, White male individual face to face interview).

I think the biggest factor is your job. Because if you are under pressure, working under pressure, that's going to affect you.

(3543 – Rajinder, South Asian male individual face to face interview).

The competitive nature of work and stress were reported as having a negative impact on health regardless of other positive lifestyle choices.

You could eat well and have a stressful job and that stress could counteract, you know the good things that you do.

(6200 – David, White male individual face to face interview).

You need a regular break as well, your body. I mean we can do seven days and we can do fifteen hours and everything and eat healthy food and eat all these things but at the end of the day your body needs a rest as well. And I think that is affecting... our Asian women as well now because they are going to work, they come home, they do the housework, they have other things over the weekend and you never used to hear of Asian women getting heart attack but now you do. There are a lot in our Gujarati community now.

(4347 – Neelam, South Asian female individual face to face interview).

Some South Asian participants suggested that English and South Asian people dealt with work stress in different ways:

When all the time you have the pressure of your job, isn't it, even if you are a good worker, you still have pressure on you. In this country I worked as a bus driver for 25 years...I had no accident, no public complaint, I was never a minute late at work, if I got late I didn't go. This was my law because if I was late I would have pressure all day that I might have an accident.... I saw English people meaning those that were born and bred in this country, they didn't do any good work, either they would have an accident or something else. They are still more good than us (feel better) they are not bothered. They say if they sack us from here we can go elsewhere. We have a lot of pressures about our jobs. We have a lot of pressures about our incomes.

(2129 - Sohan, South Asian male individual face to face interview).

Sohan's description of life at work was submerged in the pressure he experienced. This pressure may have been related to the paucity of jobs he considered as being

available to him as a South Asian. He described his White counterparts as ‘*not bothered*’ about being sacked because they would ‘*go elsewhere*’. Sohan’s explanation suggested that this option was beyond his reach and so he felt pressured to work harder just to keep his job and income, despite his comment that if he was late he would not go to work at all. However conversations with White participants also highlighted similar work insecurities to those of Sohan. White participants felt that their employers had become more empowered due to the large numbers of people waiting to take the jobs off people who were easily dispensable. This resulted in an almost powerless position for the employee, leading to increased stress.

They could be suffering, especially nowadays, through their jobs, getting a lot of stress. I think there is more stress in the workplace now than there was years ago, because my view is that there are not a lot of jobs and they can dump more on people. Employers tend to dump more on people now, than they did years ago. They, well it’s a matter of well, if that person don’t like it, there’s always someone to replace them.

(6275 – James, White male individual face to face interview).

4.9 Heredity as a risk factor for heart disease

Heredity was considered amongst all participants regardless of ethnicity or gender.

Yes that is the main thing I think. If it is in the family (pause) it’s 99% sure to come.

(6605 – Manmohan, South Asian male focus group).

I think there are hereditary reasons why perhaps certain people, certain groups of people are more likely to have heart problems, but I think it again boils down to healthy living.

(6200 - David, White male individual face to face interview).

David (6200) talks about certain 'groups' developing heart disease as a result of heredity and not heredity increasing the probability of heart disease. It was not clear from the data what he meant by 'groups'

Others talked about inherited heart defects from birth.

One factor is hereditary - there's no question in my mind about that. It worries me sometimes that when babies are born there is insufficient concern for their hearts, doctors smack the baby's bum, yes it cries, yes, ok, the hearing appears to be ok, we'll put the stethoscope on the heart, there doesn't appear to be any abnormality, but without actually monitoring the child's heart you would not know if that child was born with an inherently defective heart, and it might take years before that condition manifested itself. I'm not suggesting that medical science can do much about rectifying the problem at such an early stage, but if it is allowed to continue without proper treatment, then the poor kid is simply born with a defective heart and will die at an early age

(6128 – Patrick, White male individual face to face interview).

I think partly it depends on your own body and what you've inherited (pause) umm but that (pause) I was going to say that would normally show up when you are

younger but then again it's not true. As you are older your body breaks down, it probably can show up easier then, so if you've got inherent weakness in your heart it can show up then.

(6249 – Pete, White male individual face to face interview).

4.10 Summary

Participants regardless of ethnicity or gender initially discussed lifestyle in terms of diet and exercise. South Asians also considered the impact of and the additional difficulties they experienced in maintaining a healthy lifestyle in Britain. However in terms of their definitions of health South Asians were found to use ⁹similar interpretive repertoires to White people, reflecting comparable experiences, norms and values.

Health was defined as function by both Whites and South Asians, however the definition of the term, 'function' varied by ethnicity. South Asians spoke of health as the ability to work and maintain employment, stressing that the physical nature of their jobs did not make allowances for poor health and could lead to unemployment. This may have been a reflection of the different occupations between the two ethnic groups within the study. White men also recognised that ability to function could be separated from disease. They described how people experiencing ill health could still be considered as healthy due to their positive functioning. These discussions were prompted by an example of 'health with disease' from within the group suggesting similar examples would have had comparable effects amongst other participants.

⁹ Interpretive repertoire – people construct accounts using similar language which is culturally available

The negative health impact associated with old age was discussed by White females. Here, a healthy lifestyle and being risk averse were considered important responses to the increased need associated with the reduced functioning associated with older age.

Within specific discussions related to factors causing heart disease participants spoke about how their behaviour impacted upon their health and the responsibilities they had in-order to ensure a healthier future.

Initial discussions about diet were the same amongst South Asians and Whites regardless of gender, with equal emphasis on a low fat diet. The development of South Asian accounts were focussed around the types of food South Asians cook compared to Whites. Western food was considered to be healthier as it was less greasy and rich in essential vitamins because it was less likely to be overcooked compared to South Asian food. Such ideas had been reinforced by health professionals who had recommended reducing food intake containing butter, ghee and cooking oils and increasing foods which were boiled or grilled. There was an apparent need for the inclusion of advice relating to the diets of ethnic minority groups and migrant populations in health promotion campaigns.

However continuing within the theme of dietary intake highlighted a gender pattern regardless of ethnicity within discussions about cholesterol and heart disease. Males from both ethnic groups showed an understanding of the effects of cholesterol and atherosclerosis.

Clear ethnic differences emerged in the accounts of alcohol consumption. Although people in each ethnic group pointed out the negative effects of excessive alcohol consumption, the reasons given for alcohol consumption were different. White people associated increased alcohol consumption with loss of employment or else just for the sheer enjoyment. South Asians described increased alcohol intake as a result of migration. Some South Asian participants who had never tasted alcohol previously now drank regularly. Their new social environment may have resulted in the development of changes to conceptualisations about alcohol making it more acceptable to drink regularly. However they also described the social pressures to drink which did not exist previously and also the implications of the loss of established support networks with migration which may have encouraged increased alcohol consumption in times of stress due to the absence of other forms of support.

Stronger views about the links between smoking and health were portrayed amongst the White participants compared to South Asians. This was perhaps explained by the non-smoking status of many of the South Asian participants which probably reflected religious taboos since the predominant religious group was Sikh. White participants in comparison discussed smoking through the ages and how present anti-smoking interventions discouraged smoking. However, within these accounts were descriptions of their parents who ignored the present health messages. There was also a mistrust of such messages by participants who felt that it was difficult to know what to believe since the health messages were forever changing. Others focussed discussions around the impact of social class and smoking. Education was considered an independent factor which would deter people from smoking.

The importance of exercise and good health was discussed by South Asian and White participants. South Asian females agreed that exercise was important as it relieved them of stress and gave them freedom. However during further probing it became apparent that they often did not have enough time to partake in exercise on top of their other commitments. Whites also focused upon the negative effects of exercise especially amongst the elderly. Participants felt that certain age groups should only participate in moderate exercise as it could cause them more harm than good.

Although both South Asians and Whites agreed that stress lead to heart disease, the emphasis on the causes of stress were different. South Asians spoke of the stress associated with childrearing in the UK. White and South Asians also focussed upon the stress of work. Participants agreed that despite leading healthy lifestyles the stress of work alone could negatively affect their health outcomes. Participants spoke of the pressures of work and how it affected all spheres of life.

Finally ideas about the impact of heredity and heart disease were discussed regardless of ethnicity or gender. It was agreed that heredity acted as an important factor in relation to heart disease.

Chapter 5 – Factors affecting participants’ decisions to seek health care following general pain

5.1 Introduction

A second step towards understanding interpretation and response to angina involved asking participants to describe their health care seeking behaviour following the experience of general pain. This information would highlight factors which may contribute to delays in seeking health care following chest pain. This chapter considers a number of steps taken prior to visiting a GP, including lay consultations or a visit to the pharmacist. This is followed with discussions about the reasons for delays in seeking health care, including a lack of trust in the GP.

Many of the factors affecting participants’ decisions to seek health care were informed by the different approaches they used to establish whether their health conditions required formal support from a health service provider and, therefore, whether access to care would be perceived as legitimate.

5.2 Lay people as gatekeepers for health service engagement

Participants, regardless of their ethnic or gender background, described how, lay people, such as spouses, siblings, older children and close friends were often called upon to discuss illness before a decision was made to seek health care. Participants’ accounts included a checklist of lay consultations to be entered into before visiting the GP.

With my husband. The children are older now meaning sometimes they are not at home (so I can't ask them). After my husband if I don't feel well I will go to the doctor.

(2237 – Satwant, South Asian female individual face to face interview).

Probably my husband first, and then possibly my sister. And then maybe the girls at work, and then if it was a serious problem I'd go to the doctor.

(4118 – Eady, White female individual face to face interview).

Only after these lay consultants had each diagnosed Eady's problem as sufficiently 'serious' would she visit the doctor. These lay consultations were therefore used to endorse the person's legitimate claim to being 'ill' and acted as a trigger for them to seek health care. Alternatively, the spouse or friend may have added to delays in seeking health care by offering reasons why they should not, or do not need to, visit their GP. This lay control over health seeking behaviour even extended to the actual arrangement of access to health services.

I would discuss it with my wife first and then it would be the doctor...Well as soon as I had discussed it with my wife, then I would be at the doctors the next day...not through me through my wife.

(6156 – Scott, White male individual face to face interview).

The role of lay gatekeepers was also evident in the discussions of participants who went directly to visit their doctor without discussing health with anybody else first.

Sohan (below) described how his wife's illness prevented him from discussing his own health problems with her.

The missus and she is sick herself, so what can I do with her, I mean I don't want to put pressure about that thing, that my body is like this or anything else I don't...If I feel I have a pain here I go to the doctor.

(2129 – Sohan, South Asian male individual face to face interview).

Sohan's ¹⁰discursive account of his life positioned his wife as the patient who was unable to cope with her husband's ill health and himself as carer for his wife.

Describing his concerns of putting extra 'pressure' on his wife, presumably because he feared any additional worry could make her more unwell, Sohan was forced to adopt certain behaviours, such as visiting his doctor for advice before consulting his wife, which he may not if circumstances were different.

However, some people expressed a preference not to discuss health directly with their GP. Melanie, (below) described her difficulty in discussing her health with anybody at all.

I was brought up in a Scots family and they are very close mouthed, and you don't discuss things like that. If I was saying to somebody in Scotland, like some of my family that something was wrong, you know they would be saying, oh, you shouldn't be discussing that. It should be kept quiet, you know. And I think you feel that all the

¹⁰ Discursive account allows individuals to develop and legitimise particular identities for themselves during an interaction.

time.... If I had something wrong that I was really worried about I wouldn't tell anybody until I was desperate.

(4691 - Melanie, White female individual face to face interview).

Melanie's description about her identity and her pain behaviour was ¹¹positioned within her cultural and social upbringing. This entailed the obligation of being rather stoical about pain and only telling people, including the GP, when '*desperate*'. Her comments suggested that she may become more proactive if she felt her symptoms were serious. However, it appeared that even if she were '*really worried*' she still wouldn't '*tell anybody*'.

5.2.1 The impact of persistent symptoms on personal health seeking activity

Participants in the White female interviews described their behaviour in ways which would seem to maintain a sense of particular social roles. Female partners were the health carers for the family which included making decisions about the need for health care as well as negotiating health care access for their husbands. This role assumed a lack of engagement from husbands with health issues which could become problematic when the female partner was unwell.

I would normally worry about it a couple of weeks first of all and then I will go and either see the doctor and then I would normally tell my husband afterwards, because he fusses. But that is what I normally do, wait for a couple of weeks, hopefully it will go and if it hasn't, well then I will normally go.

¹¹ Positioning refers to the manner in which individuals identify or locate themselves as being particular types of people through their language during an interaction.

(4470 – Jane, White female individual face to face interview).

Jane feels unable to discuss her concerns with her husband as he ‘fusses’, which means he cannot be relied upon to provide a response of the level of reliability required by ‘lay consultants’. As a consequence, Jane feels no recourse but to ‘worry about it a couple of weeks’ before the persistence of her symptoms prove her worries are founded and she feels justified in seeking help from her GP. Angela (below) also describes setting herself a deadline before seeking care, as a result of a pragmatic approach to her own health.

I like to wait. I am one of these people that lets nature take its course, so I might wait a little while and then perhaps after a fortnight or three weeks if it hasn't cleared up then I think right ok, it's about time you went in there...I try to work it out myself if I could and if I thought it wasn't that serious then I probably would go along with old remedies etc myself.

(4671 - Angela, White female individual face to face interview).

Although used in different contexts a perception of persistent or extreme ‘suffering’ acted as a trigger for participants to seek health care.

When I am suffering then I go. When I suffer then I go, otherwise I hardly go.... (on a previous occasion) then I went quickly because I felt like, I thought I should get checked in case my blood pressure was high, for two days it was a bit high, he gave me tablets and then I had it checked again and he (GP) said it is ok now you don't need to eat them anymore.

(2434 – Ragbir, South Asian male individual face to face interview).

Ragbir's comments also suggest that the presence of a pre-diagnosed condition may support early GP contact as previous symptoms had been given appropriate 'authorisation' for health service use.

5.3 Issues affecting decisions regarding health service points of contact

Once the legitimate claim to health service support has been determined, patients then decide whether to visit the GP or pharmacist or self medicate. Participants in each of the ethnic and gender groups described visiting their GP after a decision had been made about the seriousness of their symptoms. However, white people, in the focus groups and during interviews, said they would visit the pharmacist before making an appointment to see their doctor. Male and female South Asian and White male interviewees also described self medicating. Participants said they were able to identify their aches and pains and said if they had a '*headache and took a tablet and the headache went*', it would be obvious that they didn't need to see a GP.

White people gave a variety of reasons for not visiting the GP straight away. Issues of availability and accessibility, getting a quicker more efficient service were described.

If I was to stop at the pharmacist, for one thing, you wouldn't have to turn up to make an appointment to see them, they are always there on hand, they've always got something that is needed which usually works.

(6031 – William, White male focus group).

This contrasted with Harjit's discussion of the problems he had experienced when trying to visit his GP with an eye problem.

I had some problem with my eye last year and every time I was suffering I could not see the doctor (due to the appointment system) 'til I made a lot of fuss and then I went to see the doctor.... When the problem doesn't go away, then I go and see the GP Although saying that I have many times been to the surgery ...looked round how many people are there and what kind of situation it is and have come back home again.... Therefore I feel coming back to that, yes a new doctor is required for me.

(544 – Harjit, South Asian male individual face to face interview).

People also talked about being given more respect as people and not patients during consultations with their pharmacist. Visits to the pharmacists appeared to enable people to retain a greater sense of control over their illness and input over their treatment pathways. This gave participants a sense that they could resolve their health problems themselves, which contrasted with the loss of power described by those who expressed dissatisfaction with the care provided by their doctor.

I try and deal with it myself, and I am not really a pill pusher, I mean, I don't take heaps of tablets and things like that... go to the pharmacist and get something, and if it doesn't work then go to the doctor, but first of all try and sort it out yourself.

(4118 – Eady, White female individual face to face interview).

Eady's comment implies that she believes she will be better able to secure a course of treatment for her condition which is appropriate to her sense of herself as '*not really a*

pill pusher' by visiting the pharmacist than the doctor, whose input is more likely to lead to a more prescriptive course of *'pill's* or *'tablets'*. Pete, below, held similar views.

The pharmacist tends to treat you as individuals.... The last time I had a throat infection, I went to the pharmacist and described the symptoms and he gave me something similar that I had had before (from the doctor). So, from my point of view, it was a question of saving the doctor's time. Though, really it was just saying , I don't need to go.

(6249 – Pete, White male individual face to face interview).

Pete's comments suggest that the pharmacist is more open to an individuals' perspective on their health condition and on the most appropriate course of treatment. However, his discussion also justifies the pharmacist as an appropriate choice for support with his health condition by describing the similarities between the pharmacist's and doctor's diagnosis. Pete is also able to offer his own insight into his condition, using his previous GP consultation, which provides him with confidence to diagnose his condition and the appropriate course of treatment. Fred, below, also describes a sense of confidence in his ability to diagnose and treat his health problems coming from prior experience. He also recognises that this might sometimes involve something of a risk as it relies on his own awareness of his allergies and sensitivities rather than the medical notes held by his doctor.

'Obviously you have to know what you can and can't take in your own body before you start doing that sort of thing because it can be pretty dangerous taking something

you are allergic to as you probably are aware, but I mean certainly, something like a throat infection that wasn't going away, I would go [to the pharmacist] and just say "I would like some amoxicillin" or something.

(6201 – Fred, White male focus group).

When consulting with a pharmacist participants did not take on the identity of a patient. They considered themselves in a more powerful position as they were able to ask for the medication they needed when they felt confident to do so. The pharmacist reinforced this position since there was no appointment system and no specific consultation, making him or her more accessible and the information had to be provided by the individual themselves, rather than them having recourse to any medical notes.

5.4 The impact of GP appointment systems in reducing health access

If a health problem persisted after participants had visited the pharmacy and after they had discussed their health with family and friends, participants said they would then make an appointment to visit the GP. However, White participants perceived the doctor's receptionist as a further barrier to health care, as the individual who arranged their appointments. Participants felt that receptionist had the power to define whether their problem was deemed an emergency or not, and therefore when they should access the doctor's expertise. The effect of the power imbalances associated with health service use are therefore apparent at the earliest points of service contact, and display a very different positioning of the individual compared with the descriptions of their interactions with their pharmacist. South Asians were less likely to mention

the receptionist. This was probably because the practices where the South Asian sample was drawn from operated a drop in surgery as well as an appointment system.

Comments suggested that this sense of frustration may stem from receptionists' enquiries regarding whether or not a condition was 'urgent'. Such enquiries fail to acknowledge the considerable debate people enter into before approaching primary health services, and that often the decision to consult with a doctor is a direct consequence of a patient (and their family, friends and pharmacist) not being able to diagnose their problem, and its urgency, themselves.

Most people, if they want to go to the doctors, they don't want to wait until next week... so in the end they don't go. A friend of mine had that problem a year ago. She had breast cancer, and then she had this pain in her arm. This got worse and worse so she rang up one evening because it was quite painful and they said "is it urgent?" So she just hung up, and she went to aqua fit that evening for the first time, and she put her arm up and she felt this awful pain and it had broken. And the cancer had gone to her arm.... so it was urgent.

(4015 – Barbara, White female individual face to face interview).

Barbara's language describes the powerful position the receptionist can hold for those seeking help from their GP. The patient in this dialogue does not appear able to answer the receptionists' question about her urgency, despite her previous cancer, as she requires a doctor's input to do so. Barbara goes on to describe the frustration she feels in dealing with the power imbalances inherent in the health system, including the lack of importance given to the patient perspective, in terms of their insight into their

own health or the value of their time. Easy accessibility would therefore reduce these uneven power relations.

And that wasn't the doctor's fault really, because he didn't know she had rang...I suppose you are sometimes put off ringing the receptionist, to say you can come next week or you can come and sit and wait, that I find a problem. That you either can come next week or you can sit and wait, for a couple of hours? You haven't - I mean, who has got a couple of hours to sit in the doctor's? And whose fault that is, I don't know.

(4015 – Barbara, White female individual face to face interview).

Participants described how waiting for an appointment could have had fatal consequences because they themselves did not know if their condition was ‘urgent’.

The earliest appointment they can give is in 2 to 3 days time and umm, so you say, have you got anything earlier and they, the woman on the end of the phone says, is it urgent? The whole reason I am phoning is that because I don't know what is wrong with me and I am concerned that it might be...if I had waited 2 – 3 days when I discovered that I had a rash, the shingles, I would have been in deep trouble because you need to get the antiviral quick for that sort of thing, but I had to fight with the receptionist.

(6481 - Steve, White male focus group).

Once again this discussion highlights the power relations between the receptionist and patient. The patient was vulnerable and had to summon extra strength to ensure they

received health care. Patients are not medically qualified to answer questions about urgency. Instead in these situations the patient may simply put down the phone as Barbara's friend did or else give a further explanation to justify why their need is urgent as described by Fred.

And you are vulnerable, because if you are ill you are not on top form so you can't argue with the receptionist because you are feeling so bad you can't be bothered. They know that you are vulnerable; they know you need it urgently, or I would think so.

(6201 – Fred, White male focus group).

Hence participants felt that even though they endeavoured to make a prompt appointment to see the GP, the appointment system made their task very difficult.

I would see a doctor as quickly as possible but the problem here is, my doctor, I just got an appointment I made two and a half weeks ago, so it has taken me two and a half weeks to see the doctor which is something I find very silly, because you need to see a doctor when you are unwell.

(544 –Harjit, male individual face to face interview).

Asian and white men described creative ways they had considered to overcome problems associated with the appointment system.

I sometimes think it would be wise to make a monkey appointment every month - a non-appointment - and keep it or not, you can always cancel it, because when I need to see a doctor it has always been difficult.

(544 – Harjit, male individual face to face interview).

Participants felt that the receptionist was challenging the legitimacy of their symptoms when they were asked about the severity of their illness. Participants did not want to ‘fit’ into an appointment system but wanted to be seen when they felt sick.

We should get an appointment on time. Because if a person is at home and I have flu or chest pain and my appointment is next week, by the time I will be dead.

(2105 - Gurmej, South Asian female focus group).

5.5 Reasons for delays in seeking health care

South Asians and White females described treatment delays which were specific to the problem suffered. Anecdotes amongst participants described delays due to fears or embarrassment about health conditions which made it difficult for them to discuss their health with the GP.

Embarrassment, I suppose, especially with women's problems and things like that I'd be embarrassed. I'd be really embarrassed. I've had one smear test. I'm not going for any more. I'm too embarrassed. That's too embarrassing.

(4691 – Melanie, White female individual face to face interview).

In my case when I had a problem I waited three years after it started and believe me I only went twice... Now I have to go for an operation.... I was feeling more embarrassed speaking to a doctor but I could talk to my friends.

(6608 – Swaran, South Asian male focus group).

I am very feeble... I talk to my husband and I talk to my work mates.... I ask their opinion...then they advise me to go to the doctor.... No, once I think it's not er, its getting worse or it's not helping me by taking whatever I've been, you know treating for it if it's not, then I would wait a couple of years...months, a couple of months. And then I would go and see the doctor. ...I was shy and I didn't go, but I waited for a couple of months for that you know.

(4347 – Neelam, South Asian female individual face to face interview).

Discussing health problems with friends meant that people could gauge their opinions and try out other treatments, before visiting the GP. This may have lead to the substantial delays before these participants visited the GP.

However, Neelam (below) points out that on other occasions she would visit the GP promptly, especially if she was suffering a lot of pain. The extent to which embarrassment could delay health seeking was affected by the level of discomfort experienced.

Unless, if it's a very bad thing, something that is painful and I need to take a drug for it, then I would but if it was some other you know....

(4347 – Neelam, South Asian female individual face to face interview).

Interestingly Neelam describes herself adopting a more pragmatic identity on other occasions. When Neelam was asked how she would respond if she wanted a referral from the doctor, her response illustrated the way identities are forever changing depending upon the situation and context people position themselves in. During embarrassing situations Neelam considers herself ‘*feeble*’ but on other occasions she is able to be quite assertive as shown below.

Well I would demand you know. I would try my best, like I said to her, give me private, because she recommended Ealing but Ealing couldn't find anything. As soon as I got to St James they knew straight away what was wrong with me...So I would. I would actually, I would demand. I mean it might be costly but when it comes to your health you have to go through.

(4347 – Neelam, South Asian female individual face to face interview).

Participants with both White and South Asian backgrounds constructed ¹²repertoires of the people they perceived as not taking their health seriously enough.

I think they don't go because they can't be bothered in a lot of cases...that don't care enough about themselves so they won't persist it and just leave it.

(6007 – Richard, White male individual face to face interview).

I knew a person who didn't go to the doctor at all...I think he suffered a heart attack about two or three months earlier and he didn't bother, he thought, oh it's just a pain and then three months later he suffered a major attack... then the doctor, he checked his records, he said, I hardly have your records, I can't find your records.... And they

¹² Repertoire – Culturally available linguistic devices used during the construction of accounts.

took him to the hospital and he stayed about three days and then he died. So he wasn't really concerned about his health.... He didn't worry about it.

(3373 – Taran, South Asian male individual face to face interview).

Participants shared anecdotes about the further delays they had to endure on the day of their consultation with the GP. White and South Asian participants regardless of gender described such experiences which lead to scepticism amongst participants yet others felt that they had no choice since their condition needed to be dealt with despite the wait.

It does seem that we spend a lot of time in surgeries waiting on an appointed time. I mean, my wife is a good case - she has had many occasions since we have had our baby, she has had many occasions to go to the surgery, always makes an appointment as required, and spends hours, an hour and a half sometimes, waiting to be seen after the time that she has been appointed, and then when she is seen she is in and out in about 30 seconds.

(6249 - Pete, White male individual face to face interview).

Although participants experienced late appointments they said they didn't mind waiting to see the doctor as it gave them peace of mind or because they really felt they were being cared for.

Well I'm not very easily put off. If I think I've got something that needs looking at, I will be very persistent, and normally I am told "well you will have to come round and wait" and I have sat in there sometimes for up to two, nearly three hours, waiting to

see the doctor, so that doesn't affect my decision at all. If I think I need to go round there, I won't put it off, I'll just chase it.

(6007 – Richard, White male individual face to face interview).

For some participants there was an acceptance that the NHS required people to wait for good care.

I don't mind, because they don't just turn people away and they don't just throw drugs at you. They are quite well known actually for being a really nice practice round here. They are quite caring. You know, they will do night calls or house calls if they think it's necessary, so I think it's ok to have to wait. I mean obviously it would be much nicer if you didn't, but that's just the way the health service is, isn't it?

(4485 – Julie, White female individual face to face interview).

Even those people who found the delays frustrating acknowledged that it was a problem inherent in the system.

It's annoying, but what can you do? Unless you change your GP. But then what makes you think you can go and find a GP that's not packed or so busy? I think it's a common problem throughout. I don't think you can say, oh, I'll change my doctor and that means I will get seen more quickly.

(3543 – Rajinder, South Asian male individual face to face interview).

Overcrowded surgeries were also blamed for the long wait before the doctor could see each patient, indicating that offering fewer appointments could relieve some of the pressure on the service.

There shouldn't be so much overcrowding, because you have to wait such a long time in the surgery. (Does that put you off going to see the doctor?) No it doesn't actually because if I am worried then I do wait up there for about one and a half hours, or two hours even, depends what day it is. If it is a Monday morning then obviously you have got a lot of queues, building up from the weekend, you know.

(3373 – Taran, South Asian male individual face to face interview).

Participants expressed negativity towards patients who visited the GP for minor ailments. They felt that these patients wasted the GP's and their time, adding to the excessive queues at the surgery. This point was only made by White male participants.

They say we are a nation of hypochondriacs, but some people actually er would go to the doctors for very little reason or something that they can control themselves, like the common cold. The attitude should be there that it is well known that you stay indoors. If you have taken disprins or aspirins before, you can take paracetamol without too much trouble. You don't crowd the GP with unnecessary work.

(6271 – Miles, White male face to face interview).

White and South Asian women discussed their concerns about visiting the GP unnecessarily.

And sometimes I feel that if I've got something that's not dreadful, I'm taking up the time of the doctor when someone who's very very ill needs to see them. So I wouldn't spend a lot of time asking questions. But having said that, I haven't had anything really, well, the back problem, but apart from that I haven't had anything I would consider to be a major problem.... But no, I think I just feel that I don't want to waste their time, I think, when somebody else is a lot worse than me and may need it.

(4091 – Janet, White female face to face interview).

Participants also became quite upset if GPs suggested that ‘they’ were wasting their time. However, complaining about the GP had led to them being struck off.

He was very abrupt the doctor, and not to waste his time, blah blah blah and he just wasn't open to reason. I called him out to the house because my husband was ill and we are not people that call the doctors out every five minutes you know, and waste their time. I was quite annoyed at his attitude at the time. Although we were quite young, we knew we could complain, but look where it ended up - we got struck off, so.

(4118 – Eady, White female face to face individual interview).

Participants also described the difficulties they experienced during consultations as a result of the need to describe their symptoms in such a short time. Participants felt that time pressures affected all aspects of the GP-patient encounter including GP-patient communication, the GP’s attentiveness and the ability of the GP to adequately explain the diagnosis and appropriate treatment regimes.

The participants felt that GPs were “*always in a rush*” and did not have enough time to discuss their health problems with them properly.

They are so busy with so many patients....and there are just so many people in there. So many people need to see the GP. So I am sure they don't have time to talk to everybody about their health and their wellbeing.

(4091 – Janet, White female individual face to face interview).

Despite these time constraints participants were confident that the GP would spend time discussing certain health issues in more detail than others and that the patient could request more information and a detailed examination if they felt it necessary.

I mean, there's a room full of people waiting to see a doctor. But I think you have to be, you have to sit on them and make sure they do answer what you want them to answer. I might go in one day and be out in a couple of minutes, but another time I might be a quarter of an hour in there, it depends what it is.

(4470 – Jane, White female individual face to face interview).

They don't have a lot of time. They would check your breast for lumps if you tell them. They check your blood pressure if you are very sick, if you feel dizzy. Then they check everything. If you just have flu then they won't take a lot of time but if you are very sick then obviously they will take a lot of time.

(2624 – Bally, South Asian female individual face to face interview).

However, participants also described occasions where busy GPs had written out prescriptions before they had said anything about their condition.

(They) ignore you. Before you have told them the condition they have already written the prescription. So you still talking to them and they have written it out and you think.... and that's why most people don't like going to the doctors. That's one of the reasons I don't go down.

(3114 - Ashvani, South Asian male focus group).

As a consequence, there was an impression that time constraints meant patients were receiving a substandard level of care.

Doctors have a lot of patients means that they have your name and address written on the ticket and quickly write you out a prescription and send you away, they don't want to waste a lot of time.... Time, during your turn the next person has his turn quickly.... I don't like this means doctors don't check you properly. Like in the past the national health was good here now it is bad.

(2434 – Ragbir, South Asian individual face to face interview).

Dealing with time constraints also led some participants to sense a loss of privacy during consultations with the GP.

Nowadays if you go to 'our' doctors they have so many patients that they only give you a bit of time and they are already pressing the bell straight away saying come in the next one.... Even if there are 3 doctors they think that by 12 o'clock, 11 o'clock we want to finish with them (the patients) isn't it.... For I have seen it many times, you have just sat down with the doctor and the doctor shouldn't press the bell for the next patient already when you are sitting inside still talking and that second patient knocks

on the door and stands there so you can't even tell them any privacy about yourself either.

(2129 – Sohan, South Asian individual face to face interview).

There was no ethnic or gender variation in the extent to which patients felt able to explain their ailments to the GP. However, time pressure played an important role in how much information participants felt able to share.

I think you are (describing your symptoms well), but you don't have very much time to do it in. So you have to be quite concise. If you want more time, they would probably give you more time....Our doctors are quite approachable, actually, quite easy to talk to, but they are very busy and you have to wait for an hour to be seen, which is probably because they give that bit more time.

(4485 – Julie, White female individual face to face interview).

Participants described the importance of being able to articulate exactly what was wrong with them in-order for the GP to make the correct diagnosis. They were aware that the GP would be able to decipher what they were talking about even if they did not know all the medical jargon.

Apart from my lack of vocabulary (laughing) - I can talk to the doctor all right, yeah. Whichever one it is I see, because there's about four or five of them down there, and I never have any trouble with any of them.... Personally I have no difficulty getting my point across eventually! Even if I go round in circles!

(6128 – Robin, White male individual face to face interview).

Participants described how their GP was able to guide them towards providing them with the information they needed.

Yes and no. Er, funnily enough I have the, I get the names of the treatment correct as in the pill names, or whatever, but there are certain times when you find it difficult to explain a pain, erm, and you need the GP to guide you along, I think. I mean, you know, quite frankly, you don't know everything about the anatomy, certainly not the medical names, so you just need a bit of guidance here, or just suggest so and so, say, is there something wrong with the stomach, and how long have you had this? Er, where does it hurt? Are you being sick with this condition?

(6271 – Miles, White male individual face to face interview).

GPs were also considered able to 'translate' the patients lay descriptions into a medical diagnosis.

Well, I think they listen to what you have got to say, I wouldn't say that I am good at explaining. I don't think that I'm any good at that at all. But I think they are good at listening, and working out what you are trying to say to them.

(6156 – Scot, White male individual face to face interview).

'Listening' was considered to be an important part of a GP's skills. This was something which was particularly affected by their heavy workload and lack of time.

I think GPs are - can be good at listening but the problem they have got these days is that they are overworked, specially my GP who is stretched to the limit. I don't think

he's got time to listen....They are good at listening, but they don't have the time. Whether they do that on purpose or not, I don't think they do. It's just the time. All it needs is for you to go to a surgery and see how packed it is.

(3543 – Rajinder, South Asian male individual face to face interview).

South Asians and Whites regardless of gender agreed that they understood what the GP was telling them about their condition. Where medical jargon confused participants, they stressed that they would ask for a more simplistic explanation.

Yes, if something you don't understand, you just ask, he can explain in simple language....There is no point if you don't understand, there is no point them to tell you what's wrong with you, if you don't understand, ask, and they will tell you in simple language. There are I know, very difficult terminologies in medical history because, I know we have a medical history at work and when doctor puts some kind of illness you don't understand you look in the dictionary. Because they use their own words you know to put it on the medical certificate.

(486 – Barat, South Asian male individual face to face interview).

Some participants also described occasions when GPs were considered as telling patients only the minimum amount of information. GPs were felt to make a judgement about how much medical (or technical) information the patient would be able to digest.

But the GP's got to make a judgment. He's got to say, well, I've dealt with this patient for the last ten years. This man seems a reasonably intelligent man; he has the

capacity to absorb the information I am going to give him, however technical it may be, um, I'll have a shot. I'll explain it to him in detail.

(6128 – Patrick, White male individual face to face interview).

The GP was also required to make a judgement about the language s/he used to describe a condition and to take time to support the patient's need, to reach an understanding of their diagnosis.

From my experience of people, and my family, when they have gone to their own doctors, yes, they have understood. When the doctor has said something, they have understood that, it's not sort of been gobbledegook, or they have tried in their best way to tell them as simply as they can, what is wrong with them, and if the matter isn't that simple, then they have been sympathetic to tell them the hard way, or referred them to someone who can.

(6200 – David, White male individual face to face interview).

However, some participants felt that the GP should not be required to provide detailed information to a patient regarding their condition. Patients, it was felt, should simply trust the GP's diagnosis and follow their recommended treatment regime without justification, in a similar way to someone who might trust a mechanic or plumber to resolve a problem without detailed explanation.

I don't think health education in the surgery with an individual person is the role of a GP....The function of the GP is to diagnose problems and to know how to deal with them, so I think, if you think of a car, a GP is a mechanic to fix it when it goes wrong.

Rather than a driving instructor. If you see what I mean.... I mean if GPs had to teach everybody biology and diagnostics and things in the surgery, (laughs) their job would take such a long time that it would never get done. If I get a plumber in, I don't want a lecture on plumbing.

(6304 – Derek, White male individual face to face interview).

5.6 The implications of a lack of trust in the GP

GP trust was an issue which arose regardless of the gender or ethnicity of participants. In this chapter I will explain how issues of trust first arose during the interviews. This issue of trust also arose again in the context of heart disease so will be discussed in specific detail in Chapter 7.

People described several experiences which lead them to question the abilities of their doctor. A perception that doctors had behaved unprofessionally caused them to lose credibility.

I thought Indian doctors were very nice. I had Dr Kumar as my GP (giggles) and he came from Bombay, he could hardly speak good English and I said I have got corns on my toes, he took off his shoes, you believe it or not and he showed me, 'I've got corns on my toes', he said. 'I want medicine for my corns'. He said, 'no no everybody has them'. I got fed up I said I can talk English, why should I bloody go to him and I went to Dr B...This sort of bloke, 'I've got flu'. 'Oh I've got flu as well'. I said to hell with you, you are not a doctor...(laughs) you get GPs like that you know.

(6605 – Manmohan, South Asian male focus group).

Manmohan was the patient needing help, he did not expect to exchange roles and examine the doctor. This led to Manmohan distrusting his GP.

Perceived incompetence, particularly where it had serious repercussions for a patient, also led to a loss of trust. Manjit and her family had trusted their GP whilst her husband was alive. However, she describes several incidents where she believes he behaved incompetently including one where his lack of action directly contributed to her husband's premature death.

Towards the end of his life when I went and phoned the doctor then the doctor gave him a letter for hospital and in that time his kidney had failed. The doctor didn't examine him properly...when the end came we went and shouted at him then he sent him to hospital.

(2853 – Manjit, South Asian female individual face to face interview).

Melanie also gave examples of negative experiences which had left her feeling less trust towards her GP and stated that as a result she would be likely to delay seeking health care in the future.

I went to the doctor in Uxbridge, and I had a lump in my breast and my husband came with me because I was nervous, and he ... he said it could be mastitis, or it could be cancer, and if it's cancer then we'll just take your breast off.... And that was the exact words. And I came out of there and I was green, and I cried for three days, I just didn't know what to do. And maybe I am just the wrong one, who always seems to have bad experiences, you know. It turned out to be mastitis.... I would leave it longer

now whereas before I didn't leave it. I found the lump; I went.... It doesn't make you feel very, you know, confident in going to a doctor.

(4691 – Melanie, White female individual face to face interview).

I haven't got any confidence in any of them... my last doctor, I asked her about this osteoporosis with my age and she says, oh come in and I'll examine you, and we'll get you on HRT. So I went in and she just gave me a prescription and never examined me. And after I went out and I was reading a magazine...about thrombosis. Well I had had thrombosis, years ago, in my leg and I was getting pains after I started taking it so I went back to her and she said "oh you have to really try it for three months", and I just said "no, I don't want it, forget it." I don't talk to them. If I've got something wrong, if I've got flu or something, maybe if I need a sick note or something, that's about all.

(4691 – Melanie, individual face to face interviews).

The doctor is considered as unreliable and untrustworthy to make the correct diagnosis by Melanie. She has lost her trust in the doctor and although she started the interview by identifying herself as keeping quiet about her ill health, Melanie gave good examples of times when she did quite the opposite. However, on two occasions, according to Melanie, the doctors had not acted in accordance to the professional position entrusted to them. Melanie has since given the GP a less powerful position within her construct of health care and refuses to consider the GP for anything other than the flu or a sick note. Melanie's trust in the GP has diminished.

5.6.1 Attitudes towards younger GPs

People also indicated that the age of the GP could determine the types of conditions they would visit them for. Joy, a White female interviewee felt the young age of her GP meant he was of value for the treatment of her physical, but not her emotional or mental, health problems. The rhetoric employed within Joys account developed by focusing on age. She used this approach to construct an identity for herself as older and wiser. Beyond this identity she considers that of the much younger doctors and describes them as *'having no mental contact'* with her.

Well there is only one that is anywhere near my age. All the rest are much younger and if it were a problem other than physical I would have no contact with them mentally - I'm not on the same wavelength.... No, I'd talk it out with people who er undergo the same problems as I do or at least are in the same age range.

(4475 – Joy, White female individual face to face interviews).

Joy was prepared to accept medical advice for physical problems from younger GPs because *'that is what they are trained for'*. In contrast she was not prepared to discuss mental health problems with them since they were considered too young to be on the same *'wavelength'* as her. Friends of a similar *'age'* were used to discuss such problems since they were viewed more appropriate due to their experiences. However, personal commonalities discovered between herself and her GP at the time Joy's husband left her enabled them to share stories which Joy felt enable the doctor to adopt a more personal and informed position of understanding Joy's problems. This GP was on a similar *'wavelength'*. This experience may have reinforced her attitudes

towards younger GPs. Joy may be looking for a similar connection with her new doctors but her account suggests that age would act as a barrier which would contribute to her not seeking health care for mental health problems.

5.7 Summary

There was no clear variation by ethnicity or gender within people's accounts of their approaches to health care access. People described a series of stages which they went through to determine whether and how access to primary health care services, including seeking the agreement of trusted friends and family, waiting to see if the problem resolved itself and trying to self-medicate, with or without the support of informed others, such as pharmacists.

People's descriptions were also insightful in terms of the reasons for their preferences for other forms of support over that provided by a GP. The structure of the appointment system, the role of the GP's receptionist and the nature of the consultation were all perceived to reduce the autonomy which people held over their lives. By contrast, the pharmacist, who offered accessibility and needed to consult the individual rather than their medical records, offered individuals an opportunity to guide their own treatment regime which enabled them to retain a sense of control over their lives.

Once a decision had been made to seek more formal health care, participants, regardless of ethnicity or gender described the additional delays they had to endure on the day of their appointment with the GP. Participants said that an appointment did

not mean they were seen on time. Busy waiting rooms with patients who were considered to be '*time wasters*', were blamed for additional delays before participants could consult with the doctor. Of course these busy waiting rooms contributed to the type of GP-patient consultation participants could expect. Participants felt that time constraints affects all aspects of the consultation, including GP-patient communication. This included how much detail the patient gave with regards their condition, how much attention the GP was perceived as giving the patient and hence the type and adequacy of the treatment the patient was receiving. It was, however, acknowledged that if a patient had a serious health condition, the GP would spend time conducting additional tests and checks and thus reassurance.

Participants also described a range of experiences which had led them to lose trust in their GP. Some had encountered incompetent and unorthodox consultation styles which had caused fear, frustration and even death. Descriptions of such GPs included terms of ridicule, distrust and a lack of professionalism. Such experiences encouraged participants to question their competence as doctors. Some participants also indicated that these experiences would affect their future consultations, contributing to future delays or refraining from seeking care for more serious matters. There was also an indication that this distrust could affect the extent to which patients felt inclined to accept the suggested treatment or medication.

Chapter 6 – Participants understanding and response to chest pain

6.1 Introduction

The research on which this thesis is based was specifically concerned with interpretation and health care seeking behaviour following symptoms of angina amongst Whites and South Asians. Hence a central issue explored within this study was related to how participants would understand and respond to chest pain. Since most participants had not experienced chest pain, there accounts are necessarily hypothetical. Emerging themes were related to participants' initial interpretations and response to symptoms of chest pain. These initial themes were followed with discussions dealing with participants' expectation from the GP after the onset of chest pain.

6.2 Interpretations of chest pain

South Asian and White participants regardless of gender indicated that they would be able to identify and distinguish between chest pain associated with heart burn, indigestion or more specifically their heart.

I think genuinely speaking most people know that you get sort of numbness in one arm particularly all down one side and you think, hang on this isn't right, umm, and again perhaps you'd be treated obviously a little bit more seriously because you've said you've got these symptoms but with just ordinary pain in the chest, it might have been indigestion or heart burn.

(6226 – Charles, White male focus group).

Charles made a distinction between symptoms and expectations from the GP.

My brother, who is an angina sufferer...had a bypass operation yesterday at St Mary's, he will tell you that the pain of a heart attack is excruciating. It is not like heartburn, it is not like indigestion. And if the pain goes down the left arm...that is the soundest indication that he is having a heart attack.

(6128 – Patrick, White male individual face to face interview).

There was recognition that heart attacks could cause symptoms which varied from those widely recognised.

You know my aunt had that problem...she was at home saying, "I have got chest pains". I was just there and we went to the doctors and when we got there the doctor took her blood pressure. We were just waiting in the surgery as normal. There was no urgency in it. The doctor called the ambulance and called me out and said, "I doubt if she'll make it".... By the time the ambulance got there she died.

(6608 – Swaran, South Asian male focus group).

Participants also spoke of the difficulty in identifying symptom severity due to the subtle differences between each symptom.

I know a guy who ended up having a triple by-pass operation because he woke up one morning, he was doing something and he felt pains in his chest and he sort of talked

to his wife about it, she wanted him to go to the doctor, he wouldn't, he went to work, he had pains in his chest all day, he came home in the evening and went on the bedroom floor and they only just managed to save his life.

(6398 – Mike, White male focus group).

However, people still commented that they would be unlikely to visit their GP if their symptoms were mild, even those who were aware that milder symptoms could still be an indication of a heart attack.

It doesn't seem that you do necessarily know exactly that it is a heart attack, that it can just be a mild sensation as well in certain circumstances, but even though I know that, I don't think I would go to the doctors if I had just a pain in my chest that wasn't very severe. I would just put it down to what I had eaten.

(6201 – Fred, White male focus group).

Because not everybody thinks that it is serious that's why a lot of people ignore it. I ignore it. I ignore it too many times.... (Why don't you visit the doctors?) Because the pain goes after a little while...it doesn't come all of a sudden. I don't get a lot of pain.

(2986 – Mandeep, South Asian male individual interview).

Participants felt that visiting the GP with chest pain could be considered 'alarmist' as it would most likely be heartburn. Others indicated that they wouldn't necessarily be sure about such symptoms but were aware of the facilities available to them within their practice to rule out or confirm heart disease.

Some people are alarmist, I think (laugh) personally, umm, if you, again it depends on who you are, how old you are, whether you've had it before or not, umm, I get pains in my chest, but that's heartburn, I know that's heartburn, so I wouldn't dream of going to the doctor with it.

(617 – Sukhvinder, South Asian female individual face to face interview).

Because pains in the chest could be angina in a way, couldn't it so you wouldn't know... At Dr Gills they've got an ECG there.

(4531 – Jenny, White female focus group).

Subtle differences occurred in the hypothetical responses to chest pain of participants depending upon previous experience of a heart attack amongst friends or family.

I think it depends as well on the personal experience you have with it, my partners sister died of a heart attack. Her father died of a heart attack and she has elevated blood pressure...so you know from my point of view, if I had a pain in my chest, I would naturally start thinking in that direction.

(6398 – Mike, White male focus group).

Participants explained why they thought people did not always seek health care following chest pain. Symptom recognition, previous experience of symptoms and lower educational attainment were all suggested as causing delays in seeking care.

Well I don't think they are educated enough really...it could be a heart attack, it could be appendix (pause), it could be anything really.

(3004 – Seema, South Asian individual face to face interviews).

6.3 Expectations of the GP following chest pain

All participants expected their GP to conduct certain diagnostic tests once they had sought medical care and advice following chest pain.

Well he is supposed to check it. Er, he is supposed to ask you what sort of pain it is first, check you right through your chest and lungs, maybe check on the back as well. And I mean the GP should know what type of pain it is, when you explain you have got a pain. Sometimes it is just a muscle pain, or the breathing, something like that, and the lung doesn't work ... He should check that... No I trust my GP implicitly. He's got to know what he's doing! (laughing). I trust him.

(2492 – Baljit, South Asian male individual face to face interview).

I think he should check the blood pressure straight away... Like is the blood thick. Blood pressure tells you what is wrong I think. If there is too much pain.

(2986 -Mandeep, South Asian male individual face to face interview).

Check your pressure, blood pressure, and take your blood test...Probably hear your chest...I don't think they would do anything else.

(6607 – Ali, South Asian male individual face to face interview).

South Asian participants did not expect the GP to do more than check their chest and blood pressure. White participants however anticipated that the GP would do more in the surgery to rule out a heart attack.

Well if I had a pain in the chest and I went to my GP, I would expect her to test my blood pressure to see if my blood is going fast, listen to my chest, to see if my heart is beating at the right rate, test my pulse, umm, ask me whether I had been suffering from tingling in the arms, a heart attack sort of thing, whether I had got hot and cold sweats, (pause) whether my feet are cold, as you know, lack of pressure, blood pressure can do that, umm, had I done any violent exercise that I was unused to that could cause umm you know, muscles to react. I think those would be what I would be expecting, my expectations when I went to the doctor.

(6249 – Pete, White male individual face to face interview).

I guess this is about heart problems. Er, take blood pressure, ask them about their diet and if they exercise and if they smoke. And ask them about the pain and whatever is associated with heart problems, and ask them if they are getting any of those symptoms. And if they are in any doubt they should send them to hospital.

(4091 – Janet, White female individual face to face interview).

White participants were more detailed in their responses. They expected to be questioned about their lifestyle so that the GP could build up a more accurate picture of their symptoms. There was an expectation for a referral for further tests to be carried out if the GP felt there were problems with the heart.

Expectation of consultation style sometimes differed depending upon the GP. Participants knew that the examination, medication or decision about referral would be different depending on the GP. A south Asian female GP was considered meeting patient needs much better than a White female GP. This consensus view was divulged prior to the tape recorder being switched on before the White interviews and discussion groups. The South Asian participants did not mention preferring one partner to another within any of the Southall practices although a few discussed the likelihood of improved care from White GPs in comparison to South Asian GPs. This was especially the case amongst participants who had experienced a negative medical experience with a South Asian GP. It is equally possible that if South Asians had suffered a negative experience with a White GP, they would have intimated that they would get better care from a South Asian GP.

I mean, they would listen to your chest, in case it was the lungs or heart, er, blood pressure, I would think they would ask quite a few questions about when it came on, did you have pains down one side or It depends on the doctor... I mean, one doctor in our practice, I think he would send you away, and see if it got better. Another one might send you for - what, would they send for a test x-ray or would they put you on one of those heart thing... Yeah, the thing with the ticker tape, what's that called? Cardiogram, is it? Would they do that? I don't know. Maybe. Yes. I guess they might do that to rule out a dodgy heart.

(4485 – Julie, White female individual face to face interviews).

Within Julies account two distinct identities evolve with regards the GPs at the practice. This results in diverse behavioural expectations from each due to the subject position given to them within the description.

An ECG was expected by participants, particularly within practices where the patient knew of its availability. Hence the emerging pattern was influenced by this. However, where social class data were available; it became apparent that a higher social class affected expectation as well.

He does ECG straight away.... He gives you some kind of medicine, I think to put under your tongue, and I think if more serious he sends you to the hospital.

(486 - Barat, South Asian male individual face to face interview).

Well I would generally expect them to...listen to your heartbeat and see if there are any abnormalities in the sound because they are used to hearing heartbeats and I think they can notice by just doing that. And if they are not sure then they should refer you for an ECG. Or if you are convinced and they didn't take that action I would go to my A and E and say check it out.... But the doctor ... he can convince you that there is nothing wrong, then ok.

(3543 – Rajinder, South Asian male individual face to face interview).

Rajinder is confident about the type of care he would expect following chest pain. However he is prepared to accept his GP's opinion even when this disagrees with his own.

Constructions of positive health outcomes within White focussed discussion related to the immediacy of the care provided.

As soon as they start doing something about it the more chance you have of surviving.

(6226 – Charles, White male focus group).

I would expect him to examine them, check their heart. It could be indigestion, or it could be their heart. If you had any doubt then definitely refer them to the hospital and have the ECG and whatever done.... if it was my husband I don't think I would!

Laughs. I think I would insist. Because of his age. If he had been younger, probably not. Because we are in our 50s now, I would probably insist. It would need to be a tremendous pain before I insisted on something for myself. But for him, I would say no, I'm not happy with that. I'd like an ECG done and have his heart checked out.

(for me) If they said oh, you're OK, I would just assume I was OK.

(4691 – Melanie, White female individual face to face interview).

Melanie stresses the importance of further tests for chest pain particularly amongst males over a certain age. Melanie considers that her husband's age makes him have a higher risk of heart disease than previously. Despite being a similar age, Melanie states that she would be less forthright if there was a mismatch between the care she expected for herself and the care the GP offered. The adoption of a more submissive position for her own health may be explained by reflecting on the negativity associated with her previous consultations as discussed in chapter 5. Alternatively, Melanie may not consider herself to be of high risk for heart disease because of portrayals of gender differences amongst males and females.

6.3.1 Referral to hospital following chest pain

Male and female South Asian and White participants believed that the GP would refer them to hospital if a heart problem was suspected. However, while White participants were specific about the consultant they would see and the tests which would be conducted, South Asians did not describe this in any detail. Such disparities are more likely to be related to knowledge and understanding of heart disease as opposed to a consequence of being South Asian.

I would expect to be referred to a cardiologist at the hospital. If...(GP) he wasn't doing something about it, I would go myself. He would do it for me. I can assure you he would rather (laugh). He would because that's his job. They don't have all the knowledge... its called 'general practitioner', its not called 'superman'.

(6072 – Frank, White male individual face to face interview).

Frank's comments indicate that he perceives holding some power in his relationship with the doctor such that he can dictate the outcome of their consultations. Moreover, if he perceived that his GP did not refer him, as he expected, he could act to seek advice from the hospital irrespective of this. He minimises the importance of the doctor's position and knowledge to deal with complex health conditions by stressing that the doctor is not superhuman. By disempowering the GP in this manner Frank strengthens and legitimises his own behaviour under such circumstances. It is worth noting that early on Frank had stressed that he was prepared to leave his health to karma. However this quote highlights that Frank would be quite proactive to ensure

he got the care he required to maintain his health and certainly not prepared to leave things to karma all the time.

I (doctor) would refer you to the hospital for an X-ray, or for someone else, a cardiologist, you know a cardiogram, or something, if she felt it was worthwhile, but if she assured me that she could not hear anything, then I would probably say, okay fine, but then if she said to me okay come back in a couple of days, then I would feel better, because then I would know she is keeping an eye on me.... If you still feel some of it then we'll refer you for a cardiogram or something, whatever it is that they do.

(6249 – Pete, White male individual face to face interview).

Pete is prepared to be convinced by the doctor that his chest pain would not require the expert opinion of a cardiologist. However, he would be more willing to accept this diagnosis if the GP indicated the increased probability of a referral if the problem persisted.

Participants discussed how they trusted their GP to provide them with appropriate care (including a referral) and support. Participants were not asked to discuss whether or not they trusted their GP, however the issue of trust arose from within the data during analysis.

I'm a teacher, parents trust in me in what I do, and quite rightly ask me if they have concerns. Likewise, I am presuming, and trusting in the doctor who knows more about medicine than I do.... And trust that he makes the right diagnosis. Now I know, that's never a hundred percent certain.... So I know that a chest complaint

could be one of many things. But I would presume that he is aware of all the alternatives, and that he would make the right judgment on my behalf. And refer me to whatever. That's what I would expect. And that is what I mean by trust.

(6200 – David, White male individual face to face interview).

David identifies with his subject position within his account as a teacher and acknowledges the obligations which go with adopting a position of responsibility, including trust and expectation from parents of pupils. Sukhvinder also describes her sense of trust that her GP would satisfy her concerns about her health and need for care.

Take their blood pressure, check their heart beat I suppose... and if I was so stressed and I went there and I sort of told him, I am sure he would refer us or he would do something that would satisfy me, I wouldn't leave until I was satisfied.... I would trust them, because that's how good they are.

(617 – Sukhvinder, South Asian female individual face to face interview).

6.3.1.2 How an overly trusting GP patient relationship may add to prehospital delays

South Asians described the depth of their trusting relationship with their GP even during an emergency such as a heart attack. South Asians indicated a preference for the GP to authorise a letter of referral to hospital. This may be related to trusting the GP to judge the severity of symptoms and also to legitimise their health needs. In turn symptoms may be given more credibility when people arrive in A&E and result in

them having shorter waiting times before being seen by a consultant. However patients also described what they would do if the doctor didn't refer them to hospital.

Kanwaljit (below) described the process involved before her husband was eventually referred to hospital.

If there is a pain in the chest the doctor should give a letter straight away for the hospital that it is an emergency.... If it is a little pain he may give pain killers for one or two days. If it doesn't stop then send you to hospital at once.... It happened to my husband, I will tell you the whole story. He had a little pain, they kept giving medicine, kept giving it, it didn't go away, then they gave an emergency letter. It came out that he had angina. (You waited for the GP to refer you?). Because our doctor is very nice, he is like a family member and he does good for us that is why we trusted him.

(2277 – Kanwaljit, South Asian female focus group).

Despite describing the GP as a trusted '*family member*' after having had experience with heart disease in the family, Kanwaljit disclosed that she would go straight to hospital without waiting for a referral letter. This stance was given further authenticity by anecdotes by other group members who had experience of heart disease. Hence people are trusting of the GP until their trust leads to a compromise in the type of care offered.

Straight away hospital. Because it (heart disease) is in my home....Then you think we are not going to waste a second so we need medical help straight away.... Of those of you who have had the experience you will go at once.

(2371 – Surinder, South Asian female focus group).

For the chest you should go to hospital. Chest, if it is near the heart it is very dangerous.... Then if the doctor gives you a letter they see you quickly if the doctor doesn't give you a letter then you just sit there and it takes ages for them to see you and you sit there for 7 or 8 hours before they check you. People take pain killers and control it, that's all.

(2434 – Ragbir, South Asian male individual face to face interview).

This comment reveals a perception that a doctor's referral influences your experience when attending the hospital and does not acknowledge that A&E waiting times vary according to patient need.

Dilbagh describes how he is able to pressurise the GPs decision with regards a referral.

We can just say send me for x-rays or send me to hospital, isn't it. Really for chest pain if you don't give something, take the letter from doctor; I want to go to hospital for x-ray. Yeah if he doesn't give it, force him, why you don't give me letter?

(2871 – Dilbagh, South Asian male focus group).

Despite these examples available within this group discussion, the language of the participants indicated that supporting the position of trust assigned the GP, by waiting for a referral, would far outweigh other decisions to seek health care from the hospital when suffering from chest pain.

Doctor first.... Many times when there has been an emergency my doctor came immediately, so I have a lot of trust that yes he will come.

(4281 – Dolly, South Asian female focus group).

Me as well. My doctor is good. I am like if I telephone, if there is a pain, then I think twice, I will phone two or three times that I need a doctor immediately. Then they will give me an answer err he says, 'go straight to hospital' or the doctor will come.

(2105 – Gurmej, South Asian female focus group).

It is worth considering what the terms 'good' and 'trust' mean within this context. The patient's response to their health can either reinforce the position assigned to the doctor or else lead to them redefining these terms. Presently these terms 'good' and 'trust' are encumbered with the responsibility and provision of care expected during emergencies. However, if these participants were to self refer to hospital would they cause compromise to the powerful position allocated to the GP? Would they have to reassess the GPs position and their position leading to an internal conflict of the importance of this person? If the GP's position was to suffer a certain degree of demotion how would these participants know whom to trust in these situations? Such participants may not want to address these alternatives and prefer to continue

reinforcing the initial assessment of the GP by relying on his opinion more than their own.

Some White participants also contacted the GP when suffering chest pain but none of them spoke of requiring a referral letter.

In instances when it has occurred, we have got in touch with the doctor by phone and he just says, “well put the phone down and dial 999” basically, it’s not that they are not interested but the quick, the best possible route is just go straight to casualty, because you would be treated as soon as the paramedics arrive and hopefully the ambulance can get to you.

(6398 – Mike, White male focus group).

6.3.1.3 Patients who no longer trusted the GP

South Asian participants went onto describe how they had lost trust in their GP following a bad experience and how it affected the GP patient interaction. Stories of distrust were substantiated through anecdotes which were idiosyncratic to these participants.

To me Dr G said that I have asthma, I didn’t have asthma...I took antibiotic tablets for one week and my asthma finished. He gave me the wrong tablets...I have those tablets until now.... I went to see another doctor and he told me to try taking antibiotics and if you get better then you don’t need these tablets....When I showed

those tablets to another doctor he said these are very bad for you, don't eat them. I haven't eaten them for 3 years.

(2853 – Manjit, South Asian female individual face to face interview).

It became increasingly evident that the credibility of doctors first came into question following the untimely death of Manjit's husband.

The doctor should check them properly.... Look where the pain is, how it occurs, in what way it happens... If I go to the doctors, if I definitely feel that the doctor's medicine has not made me better, I would phone the hospital directly and go to hospital.... Yes. We have already made this mistake, now I won't make this mistake ever again. My husband was 40, otherwise at this age how can a man die?

(2853 – Manjit, South Asian female individual face to face interview).

Manjit expects an action orientated approach from the doctor including a thorough examination. Any medicine prescribed by the doctor is given a short trial period before Manjit seeks a second opinion at hospital. Others also described the factors leading to a distrust of the GP.

That doctor should send the patient straight to hospital because the pain in the chest, with this you can have a heart attack.... It could be that the doctor has more experience than us and it could be that he doesn't want to send you yet. Because one doctor nearly killed me once, nearly I was dead, I am lucky in this world.

(2129 – Sohan, South Asian male individual face to face interview).

Although Sohan accepts that GPs may on occasion decide not to send patients for professional reasons, he described the negative consequences that can occur.

I had an asthma attack at night. We called our doctor and our doctor came, he checked me and gave me tablets, that's it, he went. It is a story about 1980 and we didn't have a telephone and neither did we know how to call an ambulance.... And next door there was a man... he took me to hospital.... That doctor needed to send me to hospital, he knew my chest was completely finished and he should send me to hospital. At that time we didn't know a lot...with a doctor like that you should with the medical council, you should complain.

(2129 – Sohan, South Asian male individual face to face interview).

Sohan's account about events that occurred during an asthma attack is affected by the social, cultural and historical context. His discourse is full of nuances which affected response to his symptoms and the behaviour of the doctor. His lack of knowledge during the negative experience resulted in his inability to make an official complaint about the doctor. He goes on (below) to refer to the ethnicity of the GP and describes him as stupid. He had previously described South Asian GPs as offering inferior care in comparison to their White counterparts and here once again gives an example of how he was let down by 'our Indian doctor'.

They (hospital staff) took me and put oxygen to my mouth straight away, gave me an injection and I stayed there for a week then. I will never forget that doctor in my life. He was our Indian doctor, so I am saying that there are stupid doctors like this as well within the National Health.

(2129 – Sohan, South Asian male individual face to face interview).

6.4 Summary

There were no ethnic or gender differences in terms of descriptions of chest pain.

Expectations of the GP following chest pain were driven by an understanding about the severity of symptoms and the importance of immediate response. South Asians had an over reliance upon the GP to carry out the appropriate tests and were not specific about all the tests they felt they needed in such a situation. They trusted their GP to make the correct choices on their behalf. This over reliance and trust lead South Asians to believe that even during an emergency situation such as a heart attack they needed the approval of the GP in the form of a letter in-order to go to A&E. Many of the South Asian participants gave examples of having waited to receive a referral letter before visiting the hospital. It was not always clear from the data why they felt they needed the hospital letter.

This approach was in sharp contrast to that of the White participants. White participants were specific about the types of questions and tests they would expect their GP to carry out in order to rule out heart disease before considering anything else. They did not trust their GPs as much as South Asians referring to them as generalists and not specialists. They expected a referral by the GP for further tests if there was any suggestion of heart disease. White participants were specific that they would be motivated to seek their own health care, asking for a second opinion if they felt they required it and had not received it from their own GP. In the emergency situation all White participants said that they would go directly to A&E although

some mentioned contacting their GP following chest pain. Those with experience of heart attacks amongst family members, regardless of ethnicity, stressed the importance of timely treatment.

An overriding theme within this section was that White participants positioned the GP in a manner which allocated him less power or trust giving them the freedom to make important decisions about their health. In comparison South Asians assigned the GP a position of utmost trust and power leaving them unable to respond to their instincts and hence being over reliant upon the GP. White people had a higher expectation of the care they should receive from the GP than South Asians and were more motivated and confident to obtain it, either to contradict the GP or to seek care from elsewhere.

Chapter 7 – Discussion and Conclusions

The leading cause of death in the UK is CHD (National Statistics 2010). Chapters 1 and 2 have shown that there has been a decline in deaths from CHD amongst the British White population since the 1970's (Allender et al 2007). However this decline in death rates has not been of a similar magnitude amongst South Asians. South Asians in the UK also experience increased premature death from CHD compared to those in South Asia (Allender et al 2007). Revascularisation is a lifesaving procedure for CHD sufferers (Department of Health 2000). However research has suggested that there is an under provision of revascularisation in the UK and that access to these services is uneven across populations (Department of Health 2000). Access to revascularisation is dependent upon ethnicity (Lear et al 1994, Shaukat et al 1993), geographical location (Black et al 1996) gender (Spencer et al, 1995) and does not correlate with need (Black et al 1995).

The present study was conducted to investigate whether these ethnic disparities in revascularisation procedures could be explained by variations in how South Asians and Whites would expect to respond if they suffered chest pains. The present study was a follow up study to a quantitative study (Chaturvedi et al 1997).

The quantitative study (Chaturvedi et al 1997) explored notions of stoicism to pain as a possible explanation for delays in seeking health care amongst South Asians compared to Whites. South Asians were reported to be 2-3 times more likely than Whites to seek health care immediately following chest pain, signifying more stoicism amongst Whites (Chaturvedi et al 1997). However these results were not substantiated during the qualitative study with Whites stating that they would seek

immediate health care following chest pain but South Asians specifying that would wait for a GP referral letter before going to hospital even during an emergency. Only those South Asians with a family history of heart disease said they would seek immediate hospital care.

7.1 Definitions of health

A key objective of the present study was to consider definitions of health from the perspective of South Asian and White participants. The development of these definitions would guide an understanding about health care seeking behaviour amongst South Asians and Whites. Definitions of health were developed from numerous perspectives including health and lifestyle, personal responsibility for health, ideas of being 'well' or 'unwell' and health as function.

Despite a preoccupation with health and disease since antiquity (Ustun & Jakob 2005, Van Spijk 1991), the term health has only recently been adopted in relation to the well being of individuals. This term was formulated from an old English word 'hoelth' which referred to the 'soundness of body' (Dolfman 1973). Health had previously been considered as a divine gift prior to the work of Hippocrates (5BC) who theorised that ill health would occur if the subtle balance between four key bodily fluids was disrupted. Despite such theories, ideas about divinity and health still persist within many societies (Ustun & Jakob 2005). As a result it is important to consider the cultural, historical and political context within which definitions of health are developed.

Discussions about health amongst South Asians and Whites included the adoption of healthy behaviours which would help individuals cope with the demands of life in the 21st Century which has been reported previously (Nordenfelt 1995, Nordenfelt 2001). Participants considered these lifestyle choices as an accepted part of the personal responsibility they took for their own health. A healthy lifestyle included virtuous behaviours similar to those described by Blaxter (2005) and included healthy diets, exercise, reduction in smoking and drinking and was anticipated to result in healthy returns. Health and healthy lifestyle were considered as synonymous and used interchangeably within the present study supporting Blaxter's (2005) findings.

One element of the definition of health was unique to South Asian participants. This related to the impact of migration upon health. Nordenfelt (1995, 2001) discussed the importance of the interrelationship between individuals and their social networks for good health. This was described as an evolutionary process crossing a whole life cycle from birth to old age and the associated culture (Nordenfelt 1995, Nordenfelt 2001). Clearly migration would impact upon these social networks and South Asians discussed their health from within this context and often referred to the life and culture they had left in India. White participants did not discuss their ethnicity or culture within their accounts suggesting that they did not recognise these themes as being important to them, especially in relation to the development of ideas about health. South Asians and Whites also considered ideas about well being within their definitions of health, reflecting more recent views about health (Elliott & Gillie 1998, Ustun & Jakob 2005).

A functional definition (Blaxter 2005) of health was discussed by South Asians and Whites. However there were subtle differences in meanings ascribed to function by the two ethnic groups. Although both South Asians and Whites considered function in terms of ability to work, Whites did not give working such a central position within their discussions. Whites focused on the social activities function served. It is important to consider the underlying reason why South Asians predominantly focussed their discussions around the importance of function for employment. Hovey and Magana (2000) reported that the stress related to acculturation, which South Asians from the present study referred to, is related to the difficulties associated with language barriers, the financial burden associated with employment and poor expectations for the future (Hovey & Magana 2000). South Asians from this study discussed the limited occupational opportunities available to them and the pressure of remaining healthy to maintain their '*practical*' jobs. This pattern of employment has been reported in previous studies which have considered the hazardous (Bennegadi & Bourdillon 1990) and lower job status (Bennegadi & Bourdillon 1990, Brubaker 1989) of migrants, concentrated in manual and more physically demanding occupations.

Definitions of health were elaborated upon within the White male focus group who discussed the potential for an individual to have an illness or disability but still be considered 'healthy' if that person could still function as '*normal*'. These participants placed considerable value on being self sufficient and having the ability to continue with the daily demands of life. This may be a reflection of the significance of personally acquired partial potential, which relates to an individuals ability to attain maximum potential in-order to cope with the demands of life. Thus when an

individual suffers from a physical disability, rehabilitation and the establishment of appropriate support mechanisms may improve the individual's partial potential so that they are able to cope with life's demands. Therefore individuals with disabilities who are given help and support to enable them to continue with active lives are able to maintain a perception that they are healthy (Bircher 2005).

A final aspect of the definition of health related to safeguarding it into older age, which was perceived as being associated with greater vulnerability to physical and immunological impairment. The measures adopted to increase abilities which have been described above as personal partial potential (Bircher 2005) were discussed. Participants described the need to have more health checks and to pay more attention to the types of risks and activities undertaken. These measures would ensure that individuals did not suffer unnecessary accidents and that they would still be able to meet the demands of life as they aged. Bircher (2005) refers to the biological given partial potential which deteriorates with age (the natural biological abilities we are born with). Hence elderly people can define themselves as healthy if they have acquired the skill to balance their biological abilities with their socially acquired abilities regardless of age (Bircher 2005).

The definitions of health discussed by South Asians and Whites have incorporated similar ideas as those which Bircher (2005) used to define health:

Health is a dynamic state of well being, characterised by a physical, mental and social potential, with the demands of a life commensurate with age, culture and

personal responsibility. If the potential is insufficient to satisfy these demands the state is disease (Bircher 2005) p.336.

7.2 Perceived risk factors for heart disease

Attitudes concerning heart disease amongst South Asians and Whites highlighted ideas about modifiable risk factors (Davidson 1998) such as diet, exercise, alcohol, smoking and stress. These risk factors will be discussed in this section.

Within the quantitative study (Chaturvedi et al 1997) a list of factors, in order of importance were developed by participants to highlight what they believed was the most important to reduce the likelihood of developing heart disease. A low fat diet was considered the most important amongst South Asians and Whites. Healthy dietary habits including foods low in fat content were associated with reduced risks of heart disease amongst White and South Asian participants from the qualitative study supporting these views and other research (Primatesta & Sproston 2000, Farooqi et al 2000). However, because the qualitative approach allows researchers to delve deeper, participants were able to elaborate and attach meanings to their views about a low fat diet.

When talking about diet, South Asians differentiated between an ‘unhealthy’ South Asian diet and a ‘healthy’ Western diet. South Asians spoke negatively about the constant struggle ‘*in this country*’ in-order to live a healthy life with particular reference to diet. South Asian’s pointed out that their diets included fried foods such as samosas or Indian sweets as reported by others (Farooqi et al 2000). Although

South Asians stated that they only ate fried foods at parties they also described how they mostly ate curry which was cooked with butter, oil or ghee. Negative attitudes about food were reinforced by health messages South Asians were exposed to. Health advisors encouraged individuals to eat roasted, boiled or steamed foods. Such foods were associated with Western diets amongst the South Asian participants and resulted in them concluding that their own food was unhealthy and a Western diet including occasional chips was healthier. As a result South Asians felt that they needed to abandon the foods and flavours they grew up with in-order to take up new healthier Western diets. White participants did not compare their food or cooking styles with that of any other ethnic group. White participants only constructed their ideas of health in relation to personal responsibility or the measures undertaken to ensure a healthy life, including a healthy diet.

Previous findings (Anderson & Lean 1995, Simmons & Williams 1997) concluded that acculturation affects food choice and cooking practices amongst South Asians, with many adopting unhealthy high fat Western diets including chips, crisps and cakes. However a recent study concluded that these initial unhealthy diets are replaced with healthier diets similar to the general population amongst subsequent South Asians (Andersen et al 2005). These findings (Simmons & Williams 1997) are of particular importance because South Asians from the present study compared their dietary habits with those of Whites and agreed that Western food was healthier.

Food preparation styles and the variety of foods eaten or the amount and type of fat consumed are dependent upon the region of the subcontinent people migrated from (Smith et al 1993). Hence it should not be assumed that all South Asian food is

unhealthy (McKeigue & Sevak 1994). Thus health promotion needs to consider all these factors and encourage individuals to prepare healthier versions of the foods they are accustomed to (Farooqi et al 2000). This would allay any confusion about the foods that are healthy and those which are not whilst encouraging individuals to lead healthy lifestyles with minor changes to their own cooking methods. One South Asian participant indicated that she had done just that when she pointed out that her curries were not fatty and healthier because she prepared and cooked them herself, supporting similar attitudes on home cooking amongst Whites in rural Australia (Lupton 2000).

The quantitative study (Chaturvedi et al 1997) reported that South Asians believed that exercise was the second most important factor to reduce heart disease. The qualitative study supported this idea with both South Asians and Whites agreeing that a lack of physical activity would have a detrimental effect on the heart. These views support research which has concluded that exercise reduces the incidence of coronary heart disease (Petersen et al 2004b, Teers 1999). A thirty to fifty percent reduction in coronary heart disease is associated with regular physical activity (Department of Health 2000).

The benefits of qualitative research are evident as participants were able to elaborate on whether understanding the positive outcomes of exercise equated to them exercising. Both South Asians and Whites provided appropriate examples of the exercises they undertook. However it soon became apparent that although South Asian females appreciated the importance of exercising, some found it difficult to participate in any exercise due to their social lives and work commitments. These findings may suggest a lower uptake of exercise amongst South Asian females due to

their cultural commitments compared to Whites. South Asians have been reported to exercise less by others (Fischbacher et al 2004, Hayes et al 2002, Stamatakis 2006). In spite of this, females from the South Asian focus group discussed the benefits of forming an exercise group with each other, despite the fact that they had just met. This implied an underlying desire to be physically active so long as they had somebody they knew with them or else as concluded from previous research (Farooqi et al 2000) the preference for female only sessions.

Compared to South Asians, Whites were more likely to discuss the negative effects of excessive alcohol consumption and heart disease. The effects of heavy drinking and the increased probability of heart disease have been described in chapter 2 (Dyer et al 1990, Klatsky et al 1990, Klatsky et al 2003). There were ethnic differences in attitudes to and reasons for alcohol consumption. White participants said that they drank excessively because they had been made redundant whilst others said they drank alcohol because they simply enjoyed it. A White male and female described themselves as recovering alcoholics. In comparison, South Asians stated that the stressful experience of migration and the loss of social support networks had led to their increased alcohol consumption. South Asians described a social pressure to drink but did not elaborate on whether these expectations were held by the British or South Asian communities in the UK. Overall, alcohol was considered to be a negative, unhealthy activity even amongst those few South Asians that did drink. South Asians were less likely to describe themselves as drinking excessively and were more likely to consider themselves as occasional drinkers who knew their limits.

Although the present study did not look at alcohol consumption amongst adolescents, findings by Best et al (2001) highlighted the fact that there were distinct ethnic drinking patterns even at a younger age between South Asians, Blacks and Whites. White children had higher prevalence rates of initiation to alcohol followed by regular use compared to South Asians and Blacks. Infact South Asian children tried alcohol at a much older age than Whites and Blacks, had lower prevalence of initiation and had the lowest rates for regular drinking. Clear ethnic themes emerged and indicated cultural patterns associated with alcohol initiation and regular use (Best et al 2001). Findings from the present study are similar since regular and excessive drinking was reported by many more Whites than South Asians.

Many South Asians from the present study reported that they did not drink alcohol at all, which may explain why few South Asians considered the impact of alcohol within their discussions about heart disease. This is in opposition to previous work which suggested that South Asians were unaware of the link between excessive alcohol and heart disease (Farooqi et al 2000). Finally, reasons for abstaining from alcohol may be attributed to religious taboos associated with drinking. However, most of the South Asian participants from the present study were Sikh. Alcohol is not a religious taboo for Sikhs.

The quantitative study (Chaturvedi et al 1997) showed that Whites considered stopping smoking as the second most important factor for reducing heart disease but this was not the case amongst South Asians. There was a clear ethnic difference related to smoking prevalence and attitudes towards heart disease. More White participants admitted to being smokers and more pointed out the risks of smoking and

heart disease compared to South Asians. Previous research (Farooqi et al 2000) has attempted to explain such discrepancies with suggestions that South Asians may not appreciate the significant impact of smoking and heart disease. However, the present study does not agree with this view since attitudes towards smoking need to be contextualised in-order to understand why fewer South Asians considered the association between smoking and heart disease. The sample consisted of predominantly Sikh participants with a religious taboo against smoking supporting studies which have shown sub-group differences in smoking prevalence (Wardle 2006). Thus although South Asian participants may be aware of the negative impact of smoking on heart disease, they may not have discussed it because they would have been considering factors which would contribute to heart disease within the context of their own lives.

White participants frequently described different attitudes towards smoking between themselves and their parents. Many parents were described as heavy smokers who did not take any notice of health messages because it had not affected them up until that point. Recent statistics from The British Heart Foundation (2007) have reported a seventy five percent higher mortality rate from CHD amongst Britain's heaviest smokers (Doll et al 2004). Further none of the White participants considered the effects of second hand smoke and heart disease, which would be an important factor if parents were smokers. Studies (He et al 1999, Law et al 1997, Petersen & Peto 2004) have reported an increased risk for CHD of twenty five percent amongst those who inhale second hand smoke.

Interestingly, the quantitative study (Chaturvedi et al 1997) did not report a significant link between participants' ideas about stress and heart disease. However both Whites and South Asians from the qualitative study described the negative impact of stress on health, once again highlighting the benefits of using in-depth interviews. Work pressure was considered as a major threat to health amongst White participants but for South Asians it was the stress related to migration, the family as reported elsewhere (Ahmed & Lemkau 2000, McAllister 1992, Talbani & Hasanali 2000) and work.

South Asians described the effects of acculturation, which is broadly defined as culture change (Salant & Lauderdale 2003) but this was not necessarily viewed positively by all the participants. Following migration to the UK, South Asians from the present study described the social, cultural and economic changes they underwent. These migrants became microcosms of the existence they previously enjoyed and attempted to retain certain traditions whilst adopting new traditions from the host community as discussed elsewhere (Talbani & Hasanali 2000). However, migration created a "dual frame of reference" (Suarez-Orozco 1991) for participants as they constantly compared the life and culture in India with that they had adopted in the UK. They described some of the "cultural shedding" which had occurred with particular reference to their children following migration and the associated "cultural conflicts" (Berry 1992) between themselves and their children. They described this conflict as family stress leading to increased risk of heart disease amongst the South Asian tight knit community. In support of these findings, previous studies have referred to this type of stress as acculturative stress (Ahmed & Lemkau 2000), whilst other studies have confirmed that good emotional health is advantageous to the health

of migrants (Elliott & Gillie 1998) but an inability to cope with life acts as a contributory factor to poor health (Nordenfelt 1995, Nordenfelt 2001).

Acculturation and assimilation is not as difficult for the younger generations because they are better able to adapt to their new environment. Talbani and Hasanali (2000) point out that ethnic identity is weaved together through numerous indicators including language spoken, the adoption of cultural traditions, political beliefs, religious beliefs, friendship groups and social gatherings. However these cultural ties are likely to become weakened with the effects of assimilation and acculturation with every new generation (Talbani & Hasanali 2000) as was reported within the present study. South Asian participants stated that most of their family stress arose as a result of fears and worries that their children would develop the cultural attitudes of the dominant host community whilst abandoning their own culture. When individuals have less access to cultural experiences of their ethnic background it is inevitable that they will be more influenced by the culture they do have access to (Talbani & Hasanali 2000).

Acculturative stress and health became a prominent and important theme amongst South Asian participants during analysis by which stage all the interviews had been completed. A significant aspect of qualitative research is the importance of reading through transcripts and making decisions about emerging themes before conducting additional interviews. This was not possible for the present study due to time constraints attached by the funding body to the original study (Chaturvedi et al 1997) of which this is a part. Had I been given the opportunity to read through transcripts before subsequent interviews I would have added additional questions which would

have delved deeper into how exactly migration had negatively impacted on the lives and health of South Asians.

White participants predominantly described the effects of work stress as being a major factor contributing to heart disease regardless of all the other healthy activities they undertook. Work stress was also mentioned as affecting heart disease amongst South Asian participants. Despite these views previous work (Reed et al 1989) and more recent work (Chandola et al 2008) has reported difficulty in identifying a direct causal relationship between work stress and coronary heart disease. This is because occupational stress may be exacerbated by other unhealthy behaviours such as smoking, alcohol consumption, a diet rich in fat or a lack of physical exercise (Chandola et al 2008, McEwan 2008). White male participants from the present study reported that they had begun to drink heavily as a result of work stress which would support these views (Chandola et al 2008, McEwan 2008).

Finally work stress was associated with a lack of job control by both South Asian and White participants. A two dimensional job strain model was proposed by (Karasek 1979, Karasek & Theorell 1990) in-order to study the relationship between job stress and coronary heart disease. The fundamental components of the model relate to high job demand (work pace/demands) and low decision latitude (a lack of decision making duties). Increased stress is related to those participants who report low decision latitude with high job demands. Many of the White and South Asian participants described the frustrations associated with their low job security. Participants described how they felt they had to maintain their good health in order to continue with their very physically demanding jobs suggesting increased stress as

reported by the model described above (Karasek 1979, Karasek & Theorell 1990). Increased work stress has been directly related to coronary heart disease (Kuper & Marmot 2003).

7.3 Perceived response to chest pain amongst South Asians and Whites

In the quantitative study (Chaturvedi et al 1997) South Asians were reported to be more likely to discuss their health problems with friends or family, the pharmacist or use alternate treatments than Whites. However this qualitative study did not find any obvious ethnic variation in this respect. Both Whites and South Asians reported that they would speak to their spouse and friends before their GP. It is however important to note that Whites in the qualitative study often stated that they would consider visiting their pharmacist before the GP. This was because the pharmacist was considered more accessible than the GP. This sense of accessibility may have been related to the practical issues associated with GP access, which varied between the ethnic groups. White participants belonged to a surgery which operated an appointment system compared to South Asian participants who could drop in at their surgery and wait to be seen.

The quantitative study (Chaturvedi et al 1997) did not report an ethnic difference between South Asians and Whites as identifying chest pain as cardiac in origin. However the qualitative study was able to extrapolate subtle ethnic difference in terms of Whites' and South Asians' abilities to identify hypothetical chest pain as being related to either angina or a heart attack highlighting how qualitative approaches add depth to emerging patterns which are otherwise lost within quantitative enquiries.

This pattern was associated with the subtleties Whites and South Asians described in response to symptoms of chest pain. South Asians considered that chest pain could be related to numerous conditions including heart disease, indigestion or muscular pain. This caused uncertainty and delays in seeking health care amongst South Asians. These findings are in conflict with the quantitative study (Chaturvedi et al 1997) which concluded that South Asians would be more anxious about chest pain and respond immediately. In comparison, White participants described a hierarchical mental checklist which began with the most severe scenario, a heart attack, being ruled out before less severe conditions such as indigestion or heart burn were considered to be causing such pain. Similar checklists have been reported for assessing symptoms and triggering health care seeking behaviour (Zola 1973). However despite this, other research has reported that symptoms of heart disease can be difficult to identify (Skevington 2001) and are frequently confused with indigestion (Dracup et al 1997b). In support of these earlier findings, participants from the present study described numerous occasions when symptom misinterpretation caused delays in seeking health care. These delays had resulted in death, near death or increased health complications. Participants stated that such misinterpretation had been the result of vague symptoms, a lack of medical education or no previous experience of angina symptoms. Hedges et al (1998) have concluded that the experience associated with a family history of heart disease leads people to interpret chest pain symptoms as indicating a heart attack and results in them seeking health care promptly (Hedges et al 1998).

The quantitative study (Chaturvedi et al 1997) concluded that South Asians were more likely to seek immediate hospital care for chest pain than Whites. Findings from

the present qualitative study highlighted an ethnic theme in the opposite direction and do not support the findings by Chaturvedi et al (1997). The difference in results between the quantitative study (Chaturvedi et al 1997) and qualitative study highlight how the qualitative approach allowed participants to explain exactly what they meant by seeking immediate care. Whilst participants from the quantitative study (Chaturvedi et al 1997) may have ticked a box stating they would seek immediate care, the way in which immediate care was sought was distinctly different between South Asians and Whites. White participants stated that they would go straight to A&E during such an emergency. South Asians believed a referral letter from the GP was required even during an acute situation before they could go to the accident and emergency department and that this letter would ensure a shorter waiting time, on arrival at hospital, before being examined. Despite South Asian participants describing near death experiences, the majority still described a reliance on the GP to authorise a visit to the hospital emergency department. South Asians with a family history of heart disease did not expect a referral letter. None of the White participants discussed a referral letter during an emergency. There has been no published research to date which has described this phenomenon amongst South Asians.

Results from the quantitative study (Chaturvedi et al 1997) showed that Whites were more likely to be aware of the types of treatment available to them following a heart attack, compared to South Asians. This was confirmed within the qualitative study. When asked about response to chest pain, development of accounts indicated less knowledge or understanding about heart disease amongst South Asians compared to Whites. This resulted in ethnic variations related to participants' expectations of their treatment from the GP following chest pain. White participants stated that they would

expect specific tests to rule out heart disease but South Asians did not expect as many or describe such specific tests. Unlike South Asians, White participants also indicated an awareness of the specific tests which needed to be conducted to rule out a heart attack after referral to hospital. When dealing with health professionals, White participants appeared to be more willing to ask for particular tests in comparison to South Asian participants.

It is important to note that the order in which questions were asked whilst conducting the interviews and focus groups affected response. It would have been beneficial to ask specific questions related to interpretation of chest pain and response to chest pain earlier on in the discussions because it would have resulted in even richer data. These questions were asked towards the end of the interviews by which time the respondents were less expressive because similar issues had been covered earlier on.

7.4 The impact of GP-patient trust during consultations and emergency situations

Some participants described the central position of trust (Kao et al 1998, Mechanic & Schlesinger 1996) between the GP and patient when considering general pain or response to hypothetical chest pain and the impact this had on the consultation process. It would have been beneficial to include additional questions related to trust because this became an important factor affecting patients' decisions about seeking health care. However this theme only became apparent once analysis had begun and all the interviews completed.

Trust has been described as an individual's ability to believe in the sincerity, truthfulness and benevolence of others (Luhmann 1989, Seligman 1997) and is also associated with the physicians technical competence, communication skills and an ability to be caring and comforting (Thom 2001). Similar ideas of trust were highlighted within the present qualitative study. These discussions were also related to the expectation that the GP would behave in a particular way (Anderson & Dedrick 1990, Thom & Cambell 1997) ensuring patient confidence that the GP would have their best intentions when making decisions about their health (Caterinicchio 1979).

More South Asians than Whites trusted their GP. Diminishing trust between GPs and patients has been attributed to the changes in the health care system (Emanuel & Dubler 1995, Gray 1997, Mechanic & Schlesinger 1996, Mechanic 1996). Some participants from the present study felt that increasing GP workloads and associated time constraints had affected their ability to provide them with good care. However trust amongst South Asians included the belief that the GP was similar to a '*family member*'. Howie et al (1999) reported similar attitudes to the GP within their study on enablement. Participants from Howie et al's (1999) study, who did not speak English at home, reported that they knew their GP better and felt more enabled following a consultation (Howie et al 1999). However, to date there is a paucity of research on consultations between South Asians and GPs (Ali et al 2006) or patient trust (Pearson & Raeke 2000) making it difficult to shed further light on factors which may contribute to the trusting relationship between South Asians and GPs.

The majority of South Asians shared sentiments about the trusting relationship they had with their GP and generally agreed that they would rely on the GP to make

decisions about their treatment or health checks following chest pain because *'he has got to know what he is doing'*. This type of trust has been described as hegemonic trust and refers to unconditional trust which is frequently found in the NHS because patients may be less inclined to question their GP (Greener 2003). In comparison White participants who were less trusting of their GP as well as South Asian participants who had 'lost' their trust in the GP had higher expectations from him/her following chest pain. These participants expected additional tests and referrals to a cardiologist following chest pain and questioned the GPs motives when s/he made decisions about their health. Similar findings have been supported by Fugelli (2001) who described scenarios of consultations with patients who had trust in their GP and those that had not. Patients with trust were willing to describe all their problems or feelings to their GP, feeling secure due to their confidence that the GP was loyal to them. Such patients would not expect numerous tests for reassurance and would be more likely to allow the GP time to diagnose the root cause of their problems. In comparison, less trusting patients would be less inclined to share their true feelings about their health problem with the GP and crave a multitude of tests and expect unnecessarily complicated referrals because they wanted action and solutions straight away (Fugelli 2001).

Another ethnic difference which became apparent during analysis related to the ethnicity of the GP. White participants showed a preference for a particular South Asian GP within their practice in comparison to the White GP, refuting suggestions that White patients may seek out non-Asian GPs (Ahmad et al 1991). The general view amongst White participants was that they would receive a better consultation with the South Asian GP and that she would offer them better treatment and a referral

if necessary supporting previous work which described increased trust amongst those who receive referrals (Thom 2001).

In contrast, South Asian participants showed a preference for White GPs without having any experience of a White GP which is contradictory to other findings (Ahmad et al 1991, Jain et al 1985) which have suggested a preference for same ethnicity GPs to avoid language barriers or cultural differences (Johnson et al 1983). However past literature on ethnic minorities has not looked at intra-ethnic factors which may affect such relationships (Ali et al 2006). South Asian participants felt that their South Asian GPs delivered inferior care and inadequate diagnosis which lead to poor health outcomes and that they would receive better care if they went to a White GP. Ali et al (2006) found similar results and reported that South Asian participants who were less fluent in English preferred to be seen by White GPs. This was because these participants felt that South Asian doctors treated them with less understanding and consideration compared to White GPs (Ali et al 2006).

Information about ethnicity, religion, age and occupation was not available; although surnames were used to indicate religion amongst South Asian participants. The predominant South Asian religious group in this study was Sikh which means these findings are more representative of Sikhs than any other South Asian group.

Therefore when interpreting the findings it is important to consider that factors other than ethnicity and gender may have impacted upon participant's definitions of health, perceived risk factors for heart disease, perceived response to chest pain and the impact of GP-patient trust on consultations. However when trying to understand delays in health care seeking behaviour amongst other South Asians it would be

useful to consider these findings as an indicator of what may be occurring when South Asians suffer chest pain and to consider future research from this perspective.

7.5 Summary

Results and conclusions from the quantitative study (Chaturvedi et al 1997) suggested that South Asians would respond immediately to chest pain. However the present qualitative findings do not support this. South Asians are not delaying in seeking health care because they are more stoical. They receive delayed hospital care because they do not trust their own judgement when confronted with an emergency situation. They indicated an over reliance on the GP to make the final decision even during emergency situations.

7.6 Limitations of the Study

A major limitation of the qualitative study was that information about socioeconomic status was not collected from participants. Such data would have been useful for ascertaining the impact, if any, that socioeconomic status has upon interpretation of symptoms and health care seeking behaviour following symptoms of angina. Nonetheless the quantitative study (Chaturvedi et al 1997) did collect information about socioeconomic status. Results showed that South Asians had lower socioeconomic status compared to Whites based on occupational classification but were better off in terms of material measures such as car and home ownership. Chaturvedi et al (1997) differentiated between Hindus and Sikhs during their analysis and concluded that Hindus were two times and Sikhs three times more likely than Whites, to seek health care immediately following symptoms of angina. Unfortunately it was not possible to use this data for the present study. Further, it would have been inappropriate to make assumptions about the socioeconomic status of participants who agreed to take part in the qualitative study.

Similarly information about age of participants and place of birth was omitted during the qualitative interviews. Information about age of participants had been collected during the quantitative study (Chaturvedi et al 1997). The study sample age group for both studies ranged from 35 to 55 years. Findings from the quantitative study concluded that South Asians were slightly younger than their White counterparts. Age of participants and place of birth, particularly amongst South Asians may have helped explain the effects of migration since this became an important theme amongst many South Asian participants. Older participants may have had a lot more of their early

socialisation in India and hence may have felt the effects of migration more than their younger counterparts.

Sub-group differences amongst South Asians could not be explored because information regarding religious affiliation was not collected during the qualitative study. This information was collected for the quantitative study (Chaturvedi et al 1997) and the predominant sub-groups consisted of Hindus and Sikhs. This information may have been useful for highlighting sub-group differences in relation to migration and alcohol consumption amongst Sikhs and Hindus. Unlike Hindus, Sikhs do not have religious taboos against alcohol. Therefore Sikhs may have been more inclined to use alcohol to alleviate themselves from the stress of migration. Although the study consisted predominantly of Sikhs, there were also Hindus and Muslims involved in the qualitative study. It would be inappropriate to make assumptions about sub-group differences without religion being confirmed.

The research by Chaturvedi et al (1997), of which this study is a part, was funded by the King Edwards Hospital Fund for London. Due to the time constraints attached to the project it was not possible to read through or transcribe each interview or focus group prior to additional interviews. Hence specific additional questions were not added to the interview schedule, as is necessary within qualitative research.

Funding for this study was received prior to my involvement. Therefore decisions about the number of focus groups and interviews had already been agreed. This meant that I did not stop interviews as a result of data saturation but because of prior decisions. It is not clear from this study whether additional interviews would have led

to further ideas or concepts developing. However, qualitative research suggests that data should be collected until new relevant themes stop occurring.

If I had received the relevant training prior to conducting interviews and focus groups the questions would have been guided by my epistemological framework and follow up questions would have been guided by the answers in a more detailed manner. Therefore some issues may have been explored in more depth.

Despite attending courses on analysis, they came much later by which time I had already conducted the interviews and started the analysis. Decisions about analysis need to be in place at the conception of qualitative research because it becomes difficult to 'fit' the data to specific analysis approaches thereafter.

A moderator attended both the White focus groups but not the South Asian focus groups. For the White female focus group the observer was a qualitative researcher and was aware of the importance of being discreet. However for the White male focus group the moderator was not a trained qualitative researcher and began making utterances during the discussion. This encouraged one participant to be particularly difficult at the beginning of the session. He made rude comments about another participant's surname. This caused an uncomfortable atmosphere within the group especially during the early stages. Once the discussion had developed any tensions had dispersed. The purpose of the moderator was to take down important information about each participant in-order to trigger my memory at a later date. The moderator during the male focus group gave me a poor description of each participant. This did not become an issue because I had made additional notes myself. However, as a result

of my experience, if I was to conduct a qualitative study in the future I would ensure that I only used a trained moderator.

It would have been preferential to use a moderator for all the focus groups. This is because one of the South Asian male participants had stood outside my place of work and then phoned me to inform me. As a result my husband dropped me off for the South Asian male focus group and collected me at the end. The participant behaved during the focus group and I was not intimidated by him. This situation was made even easier because other participants had arrived before him and one participant identified with me and said I was like his daughter, because we shared the same surname. This incident is a further example of my lack of training. If I was in a similar situation for future research I would not allow the participant to partake in the study.

This study has spanned many years and as a result it has not been possible to go back to participants and ask them additional questions. This may have been useful because I may have been able to gather more details with regards to participants' hypothetical response to symptoms of a heart attack. The ordering of questions meant that this question was asked at the end of the interview. Clearly it would have been better to ask this question a lot earlier on during discussions.

Finally, because I have taken time off to concentrate on my family I have had many supervisors. Although I am thankful to all my supervisors there are limitations because each supervisor has directed me in slightly different ways.

7.7 Strengths of the study

The qualitative study is a follow up to the quantitative study by Chaturvedi et al (1997). Using a mixed methods approach acted as a powerful tool for exploring ideas by delving deeper, giving depth and providing further explanations for the findings which were not obtained using the quantitative method alone (Chaturvedi et al 1997). This approach also allowed specific details to be collected about South Asians and Whites which appeared to be unique to them. Hence important areas which needed further exploration following the quantitative study (Chaturvedi et al 1997) were developed using this approach and supports the ideas of others (Ritchie & Lewis 2003).

The qualitative study used individual interviews and focus groups. The individual interviews allowed participants to tell their stories in their own space and time. Participants were able to delve deeper and explore issues which required more sensitivity without interruption as may have occurred in the focus groups. One South Asian female participant became particularly agitated when she saw that I was going to record the interview. The recording equipment was put away and notes were taken during the interview. If this had been a group interview this participant would have had to leave because it would be impossible to conduct a focus group without the recording equipment. Hence some participants are better suited to the individual interviews which this study allowed.

The value of the focus groups was that they captured the way daily interactions occur and how people develop and construct ideas about particular issues. There were many

occasions where participants began by constructing accounts related to the topic guide from one stance but then re-formulated their arguments in light of anecdotes provided by other group members to illustrate their experiences. This caused a shift in group opinion and participants began considering alternative approaches to the same issue. For example the White male focus group shifted its opinion on meanings of health once they had heard the opinion of Steve (6481) who stated that he had good health despite illness because he was still able to function (Chapter 4). Hence this process allowed a degree of insight into the process of attitude formation as has been suggested by others (Marshall & Rossman 1995, Holloway 1997).

The focus groups were particularly useful for capturing ideas about trust amongst South Asians and Whites. This was important especially since this issue had first arisen during the individual interviews. The focus groups allowed me to add depth to the strength of this trust and how it influenced health care seeking behaviour following symptoms of angina. The South Asian female focus group showed that once attitudes are formed it can be difficult to change peoples' opinion because they have such conviction in their own beliefs. Examples were offered within the South Asian female group about the detrimental effects of delays in seeking care following chest pain. However, those that had not experienced such symptoms continued to believe that the best action to take following such symptoms was to seek the opinion of their GP (Chapter, 7). In comparison Whites from the focus groups and individual interviews stated they would always go straight to A&E. This illustrates the cultural differences attached to health care seeking (Naish et al 1994) and highlights that health professionals may need to consider different approaches when attempting to influence attitudes amongst different ethnic groups.

Being fluent in Punjabi and English meant that I was able to conduct all the face to face interviews and focus groups regardless of the language participant chose to speak. This was a positive asset during all the individual and group discussions because some South Asian participants predominantly spoke in Punjabi or else interchanged between the two languages as is common practice when South Asians sit together. As a result the exchange of ideas had a more natural flow since participants did not have to struggle with one language in favour of another because I was able to respond to both.

I transcribed a large proportion of the interviews and focus groups conducted in English and solely transcribed all the interviews and focus groups which were conducted in Punjabi. This was excellent for keeping the data grounded as I was involved in all the major processes. Being so closely linked to the data also meant having a good recall about subtleties during interviews and focus groups which would have been lost if I had not conducted the interviews myself.

A log was recorded about each participant from the individual interviews and focus groups. In order to facilitate this process, an observer moderator attended the White male and female focus groups only but was not available for the South Asian focus groups. The role of the moderator was to capture important details about individual characteristics and gather information about group dynamics. This enabled me to focus on data collection with undivided attention. At the end of the focus groups, the moderator and I discussed the group so that important facts could be logged for future reference. These logs were an invaluable tool when returning to the transcripts during analysis. The log acted as a reminder about specific nuances associated with particular

individuals. It had a state trait effect, taking me back to the interview or focus group, reminding me about the type of encounter that took place, the atmosphere, body language, my views about the interaction and whether there was anything that may have positively or negatively affected the outcome.

My subjective position as a previous patient at one of the participating practices is likely to have initially affected my interpretations of the data. However due to the iterative process involved in qualitative analysis my position overtime, becoming less imposing or interwoven with that of the participants accounts. The participant's interpretation of events became central to the development of themes and ideas. My development within this process enabled me to ensure that I did not impose my meanings of health care upon the lives of the participants.

My ethnicity, as a South Asian female was received favourably by South Asian and White participants. The issue of the negative effects of ethnicity were highlighted in a study on migration and health (Elliott & Gillie 1998). Elliot and Gillie (1998) stated that they had had to abandon their focus groups in favour of individual interviews because a White researcher had been considered as an 'outsider' during attempts to conduct focus groups in meeting spaces designated for use by South Asians. The present study also chose meeting spaces, the 'Dominion Centre', which is used by South Asians and 'Greenford Town Hall' which is used by South Asians and Whites. All the South Asian focus groups were conducted at The Dominion Centre and all the White focus groups were conducted at Greenford Town Hall. These spaces were chosen for location, familiarity and access amongst the two groups. Issues related to my ethnicity did not arise when attempting to book either of the spaces as has been

described by others (Elliott & Gillie 1998). Further during the focus groups, neither the South Asian nor White participants displayed signs of discomfort related to my ethnicity. Infact during the South Asian focus groups my ethnicity and bilingual ability acted as an asset as described earlier.

I have been on numerous training courses following the completion of data collection. I have been on courses to help with the organisation and analysis of data, such as NUDIST at Surrey University. I have also been on a course which dealt with the theoretical and practical aspects of qualitative research, including how to conduct effective semi structured interviews, run by the Department of Primary Health Care, University of Oxford.

Finally, there is not any evidence of qualitative research (during my literature searches) looking at interpretation and response to symptoms of angina amongst South Asians and Whites.

7.8 Conclusions

South Asians and Whites defined their health by considering the personal responsibility they had in-order to maintain it and White females pointed out the importance of protecting it with age. Therefore health was part of the lifestyle South Asians and Whites had adopted. Health was also considered in terms of being well or unwell and the importance of being able to carry out everyday activities, therefore adding a functional element within their overall definition of health. South Asians

also described how the impact of stress associated with migration had negatively affected their health.

Participants discussed the modifiable risk factors associated with heart disease. South Asians and Whites both stressed the importance of a low fat diet. However, South Asians considered a Western diet to be healthier than their own diet. Health messages had reinforced such beliefs amongst South Asian participants, highlighting a need for health promotion information on how to maintain health by making simple changes to more traditional South Asian diets.

A lack of physical exercise was discussed as being detrimental for the heart amongst South Asians and Whites. However South Asians stated that social and work commitments affected their ability to participate in any regular exercise. However there was enthusiasm to form an exercise group amongst South Asian females.

Excessive alcohol consumption was described as being associated with heart disease amongst Whites and South Asians. The stress of migration was blamed for increased alcohol consumption amongst South Asians that described themselves as drinkers, whilst Whites blamed the stress associated with unemployment on their problems with alcohol.

An ethnic variation emerged in relation to smoking and heart disease. More Whites described themselves as smokers than South Asians and therefore more Whites discussed the negative impact of smoking on health. The study consisted of more Sikhs than any other South Asian sub-group which may explain these differences.

Both South Asians and Whites described the impact of stress on heart disease. However there were ethnic differences in terms of the types of stress suffered. South Asians attributed their stress to family life and work but Whites only spoke of work stress.

Although South Asians and Whites said they would be able to distinguish between chest pains associated with heart burn, indigestion, angina and a heart attack, they also recognised that symptoms could be misinterpreted. Misinterpretation of symptoms was associated with vague symptoms, a lack of education or not having had previous experience of heart disease.

Responses to symptoms of angina were affected by levels of trust in the GP. More South Asians trusted their GPs. This trust led South Asians to allow the GP to decide the path of care or additional tests they would need following chest pain. Few White participants fully trusted their GP. A lack of trust led White participants to have higher expectations of the GP to carry out additional tests and a referral to a cardiologist following chest pain.

South Asians expected a referral letter from their GP in-order to go to the accident and emergency department following an acute crisis. South Asians indicated that the referral letter would fast track them through to the appropriate department when they arrived at hospital.

7.9 Study implications

Policies need to be in place within the NHS in-order to train GPs of the subtle differences in expectation following chest pain amongst South Asians and Whites. GPs should be made aware that a trusting GP patient relationship can be associated with variation in the extent to which patients stipulate that they require additional tests or hospital referrals. Therefore training programmes should highlight that access to secondary care could be unduly affected by the amount of pressure patients apply during consultation. However, unlike previous studies (Fuat et al 2003, Naish et al 1994) lower persistence should not be interpreted to suggest that South Asians do not want or do not expect to be referred to hospital for additional tests or that they would prefer the GP to solely manage their care. On the contrary South Asians who are very trusting but less demanding still expect the GP to provide them with the best and most appropriate care. Further health promotion messages need to highlight that there is a high incidence of heart disease amongst South Asians. South Asians would benefit from information booklets describing the types of pains which are specifically associated with a heart attack and encouraged to seek emergency care promptly following these pains.

7.10 Recommendations

Definitions of ethnicity should have been made explicit before this qualitative study was conducted. As highlighted earlier a major limitation of the present study was that information regarding ethnic sub-groups, socioeconomic status and age was missing. Any future qualitative study should include details about ethnic subgroups,

socioeconomic status and age. Quantitative studies have reported an association between prehospital delays, older age (Gurwitz et al 1997) and lower socioeconomic status (Goff et al 1998, Sheifer et al 2000b) and South Asians (Barakat et al 2003, Chaturvedi et al 1997, Ratner et al 2006) but they have left unanswered questions.

An important feature of the present literature review highlighted that symptoms were misinterpreted by health professionals at primary and secondary care. The development of a teaching programme designed to highlight ethnic differences in descriptions of chest pain symptoms would be beneficial to all those involved in the care of coronary patients.

Health promotion messages should encourage South Asian people to make the appropriate changes to the diets they are accustomed to so that they can continue enjoying healthier versions of Indian food.

A community health campaign aimed at promoting a healthier heart as shown in Project Dil (Farooqi & Bhavsar 2001) using South Asian radio, TV and newspapers to deliver health message would be encouraged. This approach would reach a community which may otherwise be unaware of exactly what they need to do in an emergency situation.

Finally posters should be up in GP surgeries advising patients to go straight to A&E during an emergency rather than contacting the GP for a referral letter. The delay attached to contacting the GP first needs to be highlighted as detrimental to health outcomes.

NHS Direct was set up in 1998. Data collection for the present study was completed by 1997 therefore it is not possible to know if South Asians and Whites use this advice line and whether this has affected the way they seek health care. However audit of this service has concluded that there is lower awareness of NHS Direct amongst the young, elderly, those of lower socioeconomic status and ethnic minority groups (Shah & Cook 2008). Future research needs to take this into consideration when looking at the impact of NHS Direct on health care seeking behaviour.

Literature Cited

1. Acheson D. 1998. *Independent inquiry into inequalities in health report*.
London Stationary Office.,
2. Adelstein AM. 1963. Some aspects of cardiovascular mortality in South
Africa. *British Journal of Preventive and Social Medicine* 17:29-40
3. Ahmad N, Bhopal R. 2005. Is coronary heart disease rising in India? A
systematic review based on ECG defined coronary heart disease. *Heart*
91:719-25
4. Ahmad N, Bhopal R. 2004. Burden of non-communicable diseases in South
Asia: evidence for epidemic of coronary heart disease in India is weak.
British Medical Journal 328 (7454)(June 19):1499
5. Ahmad WIU, Baker MR, Kernohan EEM. 1991. General Practitioners'
Perceptions of Asian and Non-Asian Patients. *Family Practice* 8(1):52-
6
6. Ahmed SM, Lemkau JP. 2000. Cultural Issues in the Primary Care of South
Asians. *Journal of Immigrant Health* 2(2):89-96
7. Ajzen I, Brown TC, Carvajal F. 2004. Explaining the discrepancy between
intentions and actions: the case of hypothetical bias in contingent
valuation. *Personality and Social Psychology Bulletin* 30:1108-21

8. Ali N, Atkin K, Neal R. 2006. The Role of Culture in the General Practice Consultation. *Ethnicity and Health* 11(4):389-408

9. Allender S, Scarborough P, O'Flaherty M, Capewell S. 2008. *20th century CHD mortality in England and Wales: population trends in CHD risk factors and coronary death. Rep. 8:148*, BMC Public Health,

10. Allender S, Peto V, Scarborough P, Boxer A, Rayner M. 2007. *Coronary Heart Disease Statistics*. British Heart Foundation., London

11. Allender S, Peto V, Scarborough P, Boxer A, Raynor M. 2006. *Coronary Heart Disease Statistics*. British Heart Foundation. London.,

12. Alonzo AA. 1986. The impact of the family and lay others on care-seeking during life-threatening episodes of suspected coronary artery disease. *Social Science and Medicine* 22:1297-311

13. Andersen AS, Bush H, Lean M, Bradby H, Williams R, Lea E. 2005. Evolution of atherogenic diets in South Asian and Italian women after migration to a higher risk region. *Journal of Human Nutrition and Dietetics* 18:33-43

14. Andersen LB, Schnohr P, Schroll M, Hein HO. 2000. All-cause mortality associated with physical activity during leisure time, work, sports and cycling to work. *Archives of Internal Medicine* 160:1621-8

15. Anderson AS, Lean MEJ. 1995. Healthy Changes? Observations on a decade of dietary change in a sample of Glaswegian South Asian migrant women. *Journal of Human Nutrition and Dietetics* 8:129-36
16. Anderson LA, Dedrick RF. 1990. Development of the Trust in Physician Scale: a measure to assess interpersonal trust in patient-physician relationships. *Psychological Reports* 67:1091-100
17. Appel LJ, Moore TJ, Obarzanek E, Vollmer WM, Svetkey LP, et al. 1997. A clinical trial of the effects of dietary patterns on blood pressure. DASH Research Group. *New England Journal of Medicine* 336:1117-24
18. Armstrong D. 2003. Going to the doctor. In *Outline of Sociology as Applied to Medicine*, 2:3-14 pp. New York: Oxford University Press Inc. 3-14 pp.
19. Ashton KC. 1999. How men and women with heart disease seek care: the delay experience. *Progress in Cardiovascular Nursing*. 14:53-60
20. Ayanian JZ, Epstein AM. 1991. Differences in the use of procedures between women and men hospitalised for coronary heart disease. *New England Journal of Medicine* 325:221-5
21. Balarajan R. 1991. Ethnic differences in mortality from ischaemic heart disease and cerebrovascular disease in England and Wales. *British Medical Journal* 302:560-4

22. Balarajan R, Bulusu L, Adelstein AM, Shukla V. 1984. Patterns of mortality among migrants to England from the Indian subcontinent. *British Medical Journal* 289:1185-7
23. Banister P, Burman E, Parker I, Taylor M, Tindall C. 1994. Issues of evaluation. In *Qualitative methods in psychology: a research guide.*, 9:142-159 pp. Buckingham: Open University Press. 142-159 pp.
24. Barakat K, Wells Z, Ramdhany S, Mills PG, Timmis AD. 2003. Bangladeshi patients present with non-classic features of acute myocardial infarction and are treated less aggressively in east London, UK. *Heart* 89:276-9
25. Bardsley M, Hamm J, Lowdell C, Morgan D, Storkey M. 2000. *Developing health assessment for black and minority ethnic groups: Analysing routine health information.* The Health of Londoners Project and NHS Executive., London
26. Barengo NC, Hu G, Lakka TA, Pekkarinen H, Nissinen A, Tuomilehto J. 2004. Low physical activity as a predictor for total and cardiovascular disease mortality in middle-aged men and women in Finland. *European Heart Journal* 25:2204-11
27. Barot R. 1996. *The racism problematic: contemporary sociological debate on race and ethnicity (ed).* Lewiston: The Edwin Mellen Press.

28. Bartley M. 2004. *Health Inequality - An introduction to theories, concepts and methods*. Cambridge: Blackwell Publishing LTD.

29. Becker E, Hills A, Erens B. 2006. *Alcohol consumption in Health Survey for England. Minority ethnic groups. Volume 1*.

30. Ben-Shlomo Y, Naqvi H, Baker I. 2008. Ethnic differences in healthcare-seeking behaviour and management of acute chest pain: secondary analysis of the MINAP dataset 2002-2003. *Heart* 94:354-9

31. Ben-Shlomo Y, Chaturvedi N. 1995. Assessing equity in access to health care provision in the UK. Does where you live affect your chances of getting a coronary artery bypass graft? *Journal of Epidemiology and Community Health* 49:200-4

32. Bennegadi R, Bourdillon F. 1990. Pathologie des ´etrangers ou des migrants, Problemes cliniques et therapeutiques, enjeux de sante publique. In No real progress towards Equity: Health of Migrants and the Ethnic Minorities on the Eve of The Year 2000. Bollini, P and Siem, H (1995). *Social Science and Medicine* 41(6):819-28

33. Berger P, Luckmann T. 1991. *The social construction of reality*. London: Penguin Books.

34. Berger PB, Ellis SB, Holmes DR, Granger CB, Criger DA, Betriu Aea. 1999. Relationship between delay in performing direct coronary angioplasty

and early clinical outcome in patients with acute myocardial infarction.
Circulation 100:14-20

35. Berlin JA, Colditz GA. 1990. A meta-analysis of physical activity in the prevention of coronary heart disease. *American Journal of Epidemiology* 132:612-28
36. Berry JW. 1992. Acculturation and adaptation in a new society. In Adolescent females between tradition and modernity: gender role socialisation in South Asian immigrant culture. Talbani, A and Hasanali, P. *Journal of Adolescence* 23:615-27
37. Best D, Rawaf S, Rowley J, Floyd K, Manning V, Strang J. 2001. Ethnic and Gender Differences in Drinking and Smoking among London Adolescents. *Ethnicity and Health* 6((1)):51-7
38. Bethune A. 1996. Economic activity and mortality of the 1982 Census cohort in the OPCS Longitudinal Study. *Population Trends* 83:37-42
39. Bett JHN, Tonkin AM, Thompson PL, Aroney CN. 2005. Failure of current public education campaigns to impact on the initial response of patients with possible heart attack. *Internal Medicine Journal* 35:279-82
40. Bhatnagar D, Anand IS, Durrington PN, Patel DJ, Wander GS, Mackness MI, et al. 1995. Coronary risk factors in people from the Indian

subcontinent living in West London and their siblings in India. *The Lancet* 345(Feb 18):405-9

41. Bhopal R. 1997. Is research into ethnicity and health racist, unsound or important science? *British Medical Journal* 314(7096):1751
42. Bhopal R. 2004a. Glossary of terms relating to ethnicity and race:for reflection and debate. *Journal of Epidemiology and Community Health*(58):441-5
43. Bhopal R, Unwin N, White M, Yallop J, Walker Leal. 1999. Heterogeneity of coronary heart disease risk factors in Indian, Pakistani, Bangladeshi and European origin populations: cross sectional study. *British Medical Journal* 319:215-20
44. Bhopal RS. Coronary heart disease in South Asians: the scale of the problem and the challenge. monograph . 2004b.

Ref Type: Electronic Citation

45. Bircher J. 2005. Towards a dynamic definition of health and disease. *Medicine, Health Care and Philosophy* 8:335-41
46. Birkhead J. 1999. Trends in the provision of thrombolytic treatment between 1993 and 1997. *Heart* 82:438-42
47. Birkhead J. 1992. Time delays in presentation for thrombolytic therapy in 6 district hospitals. *British Medical Journal* 305:445-8

48. Black N, Langham S, Coshall C, Parker J. 1996. Impact of the 1991 NHS reforms on the availability and use of coronary revascularisation in the UK (1987-1995). *Heart* 76:4.
49. Black N, Langham S, Petticrew M. 1995. Coronary revascularisation: why do rates vary geographically in the UK? *Journal of Epidemiology and Community Health* 49:408-12
50. Blaxter M. 2005. What is health? In *Health and Disease: A Reader*, ed. Davey B, Gray A, Seale C, 21-27 pp. Berkshire: Open University Press. 21-27 pp.
51. Blohm MB, Hartford M, Karlson BW, et al. 1996. An evaluation of the results of media and educational campaigns designed to shorten the time taken by patients with acute myocardial infarction to decide to go to hospital. *Heart* 76:430-4
52. Bolivar-Munoz J, Daponte-Codina A, Pascual-Martinez N, Barranco-Ruiz F, et al. 2007. Use of emergency transport by patients with cardiopathies: a focus group study. *International Journal for Quality in Health Care* 19(6):407-13
53. Bollini P, Siem H. 1995. No real progress towards equity: Health of migrants and ethnic minorities on the eve of year 2000. *Social Science and Medicine* 41(6):819-28

54. Bonham VL. 2001. Ethnocultural Variations in the Experience of Pain. In *Pain: Psychological Perspectives*, ed. Hadjistavropoulos T, Craig KD, 6:161 pp. London: Lawrence Erlbaum Associates. 161 pp.
55. Bowling A. 1997. *Research Methods in Health*. Buckingham: Open University Press.
56. Bradby H. 2003. Describing Ethnicity in Health Research. *Ethnicity and Health* 8(1):5-13
57. Brighton Heart Attack Study (BHAS). Heart attack action leaflet. Brighton. 1995.

Ref Type: Pamphlet

58. British Heart Foundation. 2004. *Coronary heart disease statistics*. Department of Public Health, University of Oxford.,
59. Britten N. 2006. Quaitative Interviews. In *Qualitative research in health care.*, ed. Pope C, May N, 2:12-20 pp. Oxford: Blackwell Publishing Ltd. 12-20 pp.
60. Britton A, Shipley M, Marmot M, Hemingway H. Does access to cardiac investigation and treatment contribute to social and ethnic differences in coronary heart disease? Whitehall II prospective cohort study. British Medical Journal 329, 318. 2004. BMJ.com.

Ref Type: Electronic Citation

61. Brophy JM, Boulerice M, Kerouac M. 1996. The long term prognosis in patients following thrombolysis for acute myocardial infarction: a view from a community hospital. *International Journal of Cardiology* 55:277-83
62. Brown AL, Mann CN, Daya M, Goldberg R, Meischke H, et al. 2000. Demographic, belief and situational factors influencing the decision to utilise emergency medical services among chest pain patients. Rapid Early Action for Coronary Treatment (REACT) study. *Circulation* 102:173-8
63. Brubaker RW. 1989. *Citizens and naturalisation. Policies and Politics. In Immigration and the Politics of Citizenship in Europe and North America* . Lanham: University Press of America. 99-127 pp.
64. Burchard EG, Ziv E, Coyle N, Gomez SL, Tang H, et al. 2003. The importance of race and ethnic background in biomedical research and clinical practice. *New England Journal of Medicine* 348:1392-3
65. Burr V. 2003. *Social Constructionism*. Sussex: Routledge.
66. Buxton MJ, Klein RE. 1978. *Allocating health resources. London: HMSO (Royal Commission on the National Health Service research paper). Rep. 3,*

67. Caldwell MA, Miaskowski C. 2002. Mass media interventions to reduce help-seeking delay in people with symptoms of acute myocardial infarction: time for a new approach? *Patient Education and Counselling* 46:1-9
68. Cappuccio FP. 1997. Ethnicity and Cardiovascular risk: variations in people of African ancestry and South Asian origin. *Journal of Human Hypertension* 11:571-6
69. Case RB, Moss AJ, Case N. 1992. Living alone after myocardial infarction. Impact on prognosis. *Journal of the American Medical Association* 267:515-9
70. Castiella J, Valdearcos S, Alquezar ML. 1997. Analysis of causes of excessive prehospital delay of patients with acute myocardial infarction in the province of Teruel. *Revista español de cardiología* 50:860-9
71. Caterinicchio RP. 1979. Testing plausible path models of interpersonal trust in patient-physician treatment relationships. *Social Science and Medicine* 13A:81-99
72. Chandola T, Britton A, Brunner E, Hemmingway H, Malik M, Kumari M, et al. 2008. Work stress and coronary heart disease: what are the mechanisms? *European Heart Journal* 29:640-8

73. Chaturvedi N. 2001. Ethnicity as an epidemiological determinant - crudely racist or crucially important? *International Journal of Epidemiology* 30:925-7
74. Chaturvedi N, Ben-Shlomo Y. 1995. From the surgery to the surgeon: does deprivation influence consultation and operation rates. *British Journal of General Practice* 45:127-31
75. Chaturvedi N, Rai H, Ben-Shlomo Y. 1997. Lay diagnosis and health-care-seeking behaviour for chest pain in South Asians and Europeans. *The Lancet* 350:1578-83
76. Chaudhury M, Zaninotto P. 2006. *Blood pressure. The Health of minority ethnic groups*. The Health Survey for England, 2004,
77. Clark LT, Bellman SV, Shah AH, Feldman JG. 1992. Analysis of prehospital delay among inner-city patients with symptoms of myocardial infarction: implications for therapeutic intervention. *Journal of the National Medical Association* 84:931-7
78. Colletti G, Supnick JA, Abueg FR. 1982. Assessment of the relationship between self-reported smoking rate and Ecolyzer measurement. *Addictive Behaviours* 7:183-8
79. Collins E, Klein R. 1980. Equity and the NHS: self-reported morbidity, access and primary care. *British Medical Journal* 281:1111-5

80. Coultas DB, Howard CA, Peake GT, et al. 1988. Discrepancies between self-reported and validated cigarette smoking in a community survey of New Mexico Hispanics. *American Review of Respiratory Disease* 137:810-4
81. Craig R, Doyle M, Jotangia D. 2006. *Eating Habits in Health Survey for England. The health of minority ethnic groups. Volume 1.*
82. Davey Smith G, Chaturvedi N, Harding S, Nazroo J, Williams R. 2000. Ethnic inequalities in health: a review of UK epidemiological evidence. *Critical Public Health* 10:375-408
83. Davidson C. 1998. *Understanding Coronary Heart Disease*. Family Doctor Publication. Oxon.
84. Davitz LJ, Samashima Y, & Davitz J. 1976. Suffering as viewed in six different cultures. *American Journal of Nursing* 76:1296-7
85. Demirovic J, Blackburn H, McGovern PG, Luepker R, Sprafka JM, Gilbertson D. 1995. Sex differences in early mortality after acute myocardial infarction (The Minnesota Heart Survey). *American Journal of Cardiology* 75:1096-101
86. Department for the Environment FaRa. 2008. *Family Food in 2007*. The Stationary Office: London

87. Department of Health. 1992. *The Health of the Nation. Key area Handbook: Coronary Heart Disease and Stroke.*
88. Department of Health. 2000. *National Service Framework for coronary heart disease.* London: Stationary Office,
89. Department of Health. 2010. *Health Survey for England 2008.* The Stationary Office: London,
90. Dhawan J, Bray CL. 1994. Angiographic comparison of coronary artery disease between Asians and Caucasians. *Postgraduate Medical Journal* 70:625-30
91. Dhawan J, Bray CL. 1997. Asian Indian, coronary artery disease and physical exercise. *Heart* 78:550-4
92. Dolfman M. 1973. The Concept of Health:an historic and analytic examination. *The Journal of School Health* 43:491-7
93. Doll R, Peto V., Boreham J, Sutherland I. 2004. Mortality in relation to smoking: 50 years' observation on male British doctors. *British Medical Journal* 328:1519-27
94. Donabedian A. 1980. The definition of quality and approaches to its assessment. MI. USA. *Ann Arbor*

95. Dong W, Ben-Shlomo Y, Colhoun H, Chaturvedi N. 1998. Gender differences in accessing cardiac surgery across England: a cross-sectional analysis of the Health Survey for England. *Social Science and Medicine* 47(11):1773-80
96. Douglas JD. 1976. *Investigating social research: individual and team field research*. Beverly Hills, CA.: SAGE.
97. Dracup KMDK, McKinley S, Ball C, Yamasaki K, Kim C-J, Doering LV, Caldwell MA. 2003. An international perspective on the time to treatment for acute myocardial infarction. *Journal of Nursing Scholarship* 35(4):317-23
98. Dracup K, Alonzo AA, Atkins JM, Bennet NMeal. 1997a. The physician's role in minimizing prehospital delay in patients at high risk for acute myocardial infarction: Recommendations from the National Heart Attack Alert Program. *Annals of International Medicine* 126(8):645-51
99. Dracup K, McKinley S, Moser DK. 1997b. Australian patients' delay in response to heart attack symptoms. *The Medical Journal of Australia*. 166:233-6
100. Dracup K, Moser DK. 1991. Treatment seeking behaviour amongst those with signs and symptoms of acute myocardial infarction. *Heart Lung* 20(5 pt 2):570-5

101. Dracup K, Moser DK, Eisenberg Mea. 1995. Causes of delay in seeking treatment for heart attack symptoms. *Social Science and Medicine* 40(3):379-92
102. Dyer AR, Stamler J, Paul Oeal. 1990. Alcohol consumption and 17-year mortality in the Chicago Western Electric Company Study. *Preventive Medicine* 9:78-90
103. Edwards RR, Doleys DM, Fillingim RB, Lowery D. 2001. Ethnic differences in pain tolerance: Clinical implications in a chronic pain population. *Psychosomatic Medicine* 63:316-23
104. Elford J, Bolding G, Davis M, Sherr L, Hart G. 2004. The internet and HIV study: design and methods. *BMC Public Health* 4(39)
105. Ell K, Haywood LI, Sobel E, deGuzman M, Blumfield D, Ning JP. 1994. Acute chest pain in African Americans: factors in the delay in seeking emergency care. *American Journal of Public Health* 84:965-70
106. Elliott SJ, Gillie J. 1998. Moving experiences: a qualitative analysis of health and migration. *Health and Place* 4(4):327-39
107. Emanuel EJ, Dubler NN. 1995. Preserving the physician-patient relationship in an era of managed care. *Journal of the American Medical Association* 273:323-9

108. Enas EA, Garg A, Davidson MA, Nair VM, Huet BA, Yusuf S. 1996. Coronary heart disease and its risk factors in first generation immigrant Asian Indians to the United States of America. *Indian Heart Journal* 48:343-53
109. Enas EA, Yusuf S, Mehta J. 1992. Prevalence of coronary artery disease in Asian Indians. *American Journal of Cardiology* 70:945-9
110. Engel G. 1950. 'Psychogenic' pain and the pain prone patient. *American Journal of Medicine* 26:899-909
111. Erens B, Primatesta P, Prior G. 2001. *Health Survey for England. The health of minority ethnic groups '99*. Department of Health,
112. Fabrega H, Tyma S. 1976. Language and cultural influence in the description of pain. *The British Journal of Medical Psychology* 49:349-71
113. Fang J, Madhavan S, Alderman MH. 1996. The association between birthplace and mortality from cardiovascular causes among black and white residents of New York City. *New England Journal of Medicine* 335:1545-51
114. Farooqi A, Bhavsar M. 2001. Project Dil: A Co-ordinated Primary Care and Community Health Promotion Programme for Reducing Risk Factors of Coronary Heart Disease Amongst the South Asian Community of

Leicester - experiences and evaluation of the project. *Ethnicity and Health* 6(3/4):265-70

115. Farooqi A, Nagra D, Edgar T, Khunti K. 2000. Attitudes to lifestyle risk factors for coronary heart disease amongst South Asians in Leicester: a focus group study. *Family Practice* 17(4):293-7
116. Feder G, Crook AG, Magee P, Banerjee S, Timmis AD, Hemingway H. 2002. Ethnic differences in invasive management of coronary disease: prospective cohort study of patients undergoing angiography. *British Medical Journal* 324:511-6
117. Fentem PH. 1994. ABC of Sports Medicine: Benefits of exercise in health and disease. *British Medical Journal* 308:1291-5
118. Fibrinolytic Therapy Trials (FTT) collaborative group. 1994. Indications for fibrinolytic therapy in suspected acute myocardial infarction: collaborative overview of early mortality and major morbidity results from all randomised trials of more than 1000 patients. *The Lancet* 343:311-22
119. Field PA, Morse JM. 1989. *Nursing Research: The Application of Qualitative Approaches*. London: Chapman and Hall.

120. Finch H, Lewis J. 2003. Focus Groups. In *Qualitative Research Practice: A guide for Social Science Students and Researchers*, ed. Ritchie J, Lewis J, 7:170-198 pp. London: SAGE. 170-198 pp.
121. Fischbacher CM, Hunt S, Alexander L. 2004. How physically active are South Asians in the United Kingdom? A literature review. *Journal of Public Health* 26:250-8
122. Fuat A, Hungin APS, Murphy JJ. 2003. Barriers to accurate diagnosis and effective management of heart failure in primary care: qualitative study. *British Medical Journal* 326:196
123. Fugelli P. 2001. Trust - in general practice. *British Journal of General Practice* 51:575-9
124. Gaffney B, Kee F. 1995. Are the economically active more deserving? *British Heart Journal* 73:385-9
125. Gardner K, Chapple A. 1999. Barriers to referral in patients with angina: qualitative study. *British Medical Journal* 319(7207):418-21
126. Gaspoz JM, Unger PF, Urban Pea. 1996. Impact of a public campaign on pre-hospital delay in patients reporting chest pain. *Heart* 76:150-5
127. Ghaffar A, Reddy KS, Singhi M. 2004. Burden of non-communicable diseases in South Asian. *British Medical Journal* 328:807-10

128. Ghali JK, Cooper RS, Kowatly I, Liao Y. 1993. Delay between onset of chest pain and arrival to the coronary care unit among minority and disadvantaged patients. *Journal of National Medical Association* 85:180-4
129. GISSI - (Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardio). 1986. Effectiveness of intravenous thrombolytic treatment in acute myocadial infarction. *The Lancet* 1:397-402
130. GISSI - Avoidable Delay Study Group. 1995. Epidemiology of avoidable delay in the care of patients with acute myocardial infarction in Italy. *Archives of International Medicine* 155:1481-8
131. GISSI-2 and International Study Group. 1992. Six month survival in 20 891 patients with acute myocardial infarction randomized between alteplase and streptokinase with or without heparin. *European Heart Journal* 13:1692-7
132. Goddard M, Smith P. 2001. Equity of access to health care services: Theory and evidence from the UK. *Social Science and Medicine* 53:1149-62
133. Goff DC, Nichaman MZ, Ramsey DJ, Meyer PS, Labarthe DR. 1995. A population based assessment of the use and effectiveness of thrombolytic therapy: The Corpus Christi Heart Project. *Annals of Epidemiology* 5:171-8

134. Goff DC, Sellers DE, McGovern PG, Meischke H, Goldberg RJ, et al. 1998. Knowledge of heart attack symptoms in a population survey in the United States: The REACT Trial. *Archives of International Medicine* 158:2329-38
135. Goldberg KC, Hartz AJ, Jacobson SJ, Kracauer H, Rimm AA. 1992a. Racial and community factors influencing coronary artery bypass surgery rates for all 1986 Medicare patients. *Journal of the American Medical Association* 267:1473-7
136. Goldberg RJ, Gurwitz J, Yarzebski J, et al. 1992b. Patient delay and receipt of thrombolytic therapy among patients with acute myocardial infarction from a community-wide perspective. *American Journal of Cardiology* 70:421-5
137. Goldberg RJ, Gurwitz JH, Gore JM. 1999. Duration of, and Temporal Trends (1994-1997) in, prehospital delay in patients with acute myocardial infarction. *Archives of International Medicine* 159:2141-7
138. Goldberg RJ, Mooradd M, Gurwitz JH, Rogers WJ, French WJ, et al. 1998. Impact of time on to treatment with tissue plasminogen activator on morbidity and mortality following acute myocardial infarction (The second National Registry of Myocardial Infarction). *American Journal of Cardiology* 82(3):259-64

139. Goldsmith I, Lip GY, Tsang G, Patel RL. 1999. Comparison of primary coronary artery bypass surgery in a British Indo-Asian and White Caucasian population. *European Heart Journal* 20:1094-100
140. Gray BH. 1997. Trust and trustworthy care in the managed care era. *Health Affairs* 16:34-49
141. Greener I. 2003. Patient choice in the NHS: the view from economic sociology. *Social Theory and Health* 1:72-89
142. Guba EG, Lincoln YS. 1989. *Fourth generation evaluation*. Newbury Park,CA.: SAGE.
143. Gupta R, Joshi P, Mohan V, Reddy KS, Yusuf S. 2008. Epidemiology and causation of coronary heart disease and stroke in India. *Heart* 94:16-26
144. Gupta R, Gupta VP. 1996. Meta-analysis of coronary heart disease prevalence in India. *Indian Heart Journal* 48:241-5
145. Gupta S, de Belder A, Hughes LO. 1995. Avoiding premature coronary deaths in Asians in Britain. *British Medical Journal* 311(7012):1035-6
146. Gurwitz JH, Gore JM, Goldberg RJ, Rubison M, Chandra N, Rogers WJ. 1996. Recent age - related trends in use of thrombolytic therapy use in patients who have had acute myocardial infarction. National registry of Myocardial Infarction. *Annals of International Medicine* 124:283-91

147. Gurwitz JH, McLaughlin TJ, Willison DJ, Guadagnoli E, Hauptman PJ, Et al. 1997. Delayed hospital presentation in patients who have had acute myocardial infarction. *Annals of Internal Medicine* 126(8):593-9
148. Hackett TP, Cassem NH. 1969. Factors contributing to delay in responding to the signs and symptoms of acute myocardial infarction. *American Journal of Cardiology* 24:651-8
149. Hameed K, Gibson T. 1997. A comparison of the prevalence of rheumatoid arthritis and other rheumatic diseases amongst Pakistanis living in England and Pakistan. *British Journal of Rheumatology*. 36:781-5
150. Hand M, Brown C, Horan M, Simons-Morton D. 1998. The National Heart Attack Alert Program: progress at 5 years in educating providers, patients and the public and future directions. *Journal of Thrombosis and Thrombolysis* 6:9-17
151. Hayes L, White M, Unwin N, Bhopal R, Fischbacher C, et al. 2002. Patterns of physical activity and relationship with markers for cardiovascular disease and diabetes in Indian, Pakistani, Bangladeshi and European adults in a UK population. *Journal of Public Health Medicine* 24:170-8
152. He J, Vupputuri S, Allen K, Prerost M, Hughes J, Whelton P. 1999. Passive smoking and the risk of coronary heart disease - a Meta-Analysis of Epidemiological Studies. *New England Journal of Medicine* 340:920-6

153. Health Education Authority. 1991. *Nutrition in Minority Ethnic groups: Asians and Afro-Caribbeans in the United Kingdom*. Health Education Authority. Briefing paper.,
154. Hedges JR, Mann NC, Meischke H, Robbins M, Goldberg R, Zapka J. 1998. Pain and symptom perception. In *Culture, Health and Illness*, ed. Helman CG, 8:197 pp. London: Arnold. 197 pp.
155. Hill SE. 1990. *More than Rice and Peas: Guidelines to improve food provision for black and ethnic minorities in Britain*. The Food Commmission.
156. Hirani V, Primatesta P. 1999. *Eating Habits. Health Survey for England. Volumen 1. The health of minority ethnic groups*. London. The information Center,
157. Hitchcock T, Rossouw F, McCoubrie D, Meek S. 2003. Observational study of prehospital delay in patients with chest pain. *Emergency Medicine Journal* 20:270-3
158. Ho KH, Ong BK. 2001. Headache characteristics and race in Singapore: Results of a randomised national survey. *Headache* 41:279-84
159. Ho MT. 1991. Delays in the treatment of acute myocardial infarction: an overview. *Heart Lung* 20:566-9

160. Ho MT, Eisenberg MS, Litwin PE, et al. 1989. Delay between onset of chest pain and seeking medical care: the effect of public education. *Annals of Emergency medicine* 18:727-31
161. Holloway I. 1997. *Basic Concepts for Qualitative Research*. Oxford: Blackwell Science Ltd.
162. Honeyman P, Jacobs E. 1996. Effects of culture on back pain in Australian Aborigines. *Spine* 21:841-3
163. Hood S, Birnie D, Swan L, Hillis WS. 1998. Questionnaire survey of thrombolytic treatment in accident and emergency departments in the United Kingdom. *British Medical Journal* 316(7127):274
164. Horne R, James D, Petrie K, Weinman J, Vincent R. 2000. Patients' interpretation of symptoms as a cause of delay in reaching hospital during acute myocardial infarction. *Heart* 83(4):388-93
165. Houghton IT, Aun CST, Lau JTF. 1992. Inter-ethnic differences in postoperative pethidine requirements. *Anaesthesia and Intensive Care* 20:52-5
166. Hovey JD, Magana C. 2000. Acculturative stress, anxiety and depression among Mexican immigrant farmworkers in the Midwest United States. *Journal of Immigrant Health* 2(3):119-31

167. Howie JGR, Heaney DJ, Maxwell M, Walker JJ, Freeman GK, Rai H. 1999.
Quality at General Practice Consultations: Cross Sectional Survey.
British Medical Journal 319:738-43
168. Hu FB, Rimm EB, Stampfer MJ, Ascherio A, Spiegelman D, Willet WC.
2000. Prospective study of major dietary patterns and risk of coronary
heart disease in men. *American Journal for Clinical Nutrition* 72:912-
21
169. Hughes D, Dumont K. 1993. Using focus groups to facilitate culturally
anchored research. *American Journal of Community Psychology*.
21:775-806
170. Hughes K, Yeo PPB, Lun KCea. 1990. Cardiovascular disease in Chinese,
Malays and Indians in Singapore.II. Differences in risk factor levels.
Journal of Epidemiology and Community Health 44:29-35
171. INTERSALT Cooperative Research Group.INTERSALT. 1988. An
international study of electrolyte excretion and blood pressure. Results
for 24 hour urinary sodium and potassium excretion. *British Medical
Journal* 297:319-28
172. ISIS - 2 (Second international study of infarct survival). 1988. Randomised
trial of intravenous streptokinase, oral aspirin, both, or neither among
17,187 cases of suspected acute myocardial infarction. *The Lancet*
ii:349-60

173. Jacobson MS. 1987. Cholesterol Oxides in Indian Ghee:possible cause of unexplained high risk of atherosclerosis in Indian immigrant populations. *The Lancet* ii:656-8
174. Jain C, Nalaya NK, Pike LA, Clarkson ME, Cox IG, Chatterjee J. 1985. Attitudes of Asian patients in Birmingham to general practitioner services. *Journal of Royal College of General Practitioners* 35:416-8
175. Jajoo UN, Kalantri SP, Gupta OP, Jain AP, Gupta K. 1988. The prevalence of coronary heart disease in rural population from Central India. *The Journal of the Association of Physicians of India* 12:689-92
176. Jarvis M. 1986. Different but not unhealthy. *Health Service Journal*:1105
177. Johansson I, Stromberg A, Swahn E. 2004. Ambulance use in patients with acute myocardial infarction. *Journal of Cardiovascular Nursing* 19:5-12
178. Johnson JA, King KB. 1995. Influence of expectations about symptom on delay in seeking treatment during a myocardial infarction. *American Journal of Critical Care* 4:29-35
179. Johnson MRD, Cross M, Cardew SA. 1983. Inner city residents, ethnic minorities and primary health care. *Postgraduate Medical Journal* 59:664-7

180. Joshipura KJ, Hu FB, Manson JA, Stampfer MJ, Rimm EB, et al. 2001. The effect of fruit and vegetable intake on risk for coronary heart disease. *Annals of International Medicine* 134:1106-14
181. Kahn R, Cannell C. 1957. *The dynamics of interviewing. Theory, technique and cases*. New York.: Wiley and Sons,inc.
182. Kainth A, Hewitt A, Pattenden J, Sowden A, Duffy S, et al. 2004. Systematic review of interventions to reduce delay in patients with suspected heart attack. *Emergency Medicine Journal* 21:506-8
183. Kannel WB, Abbott RD. 1984. Incidence and prognosis of unrecognised myocardial infarction. An update from the Framingham study. *New England Journal of Medicine* 311:1144-7
184. Kant AK, Schatzkin A, Graubard BI, Schairer C. 2000. A prospective study of diet quality and mortality in women. *Journal of the American Medical Association* 283(16):2109-15
185. Kao AC, Green DC, Zaslavsky AM, Koplan JP, Cleary PD. 1998. The relationship between method of physician payment and patient trust. *Journal of the American Medical Association* 280:1708-14
186. Karasek RA. 1979. Job demands, job decision latitude and mental strain: implications for job redesign. *Administrative Science Quarterly* 24:285

187. Karasek RA, Theorell T. 1990. *Healthy work: stress, productivity and the reconstruction of working life*. New York.: Basic Books.
188. Kauhanen J, Kaplan GA, Goldberg DE, Salonen JT. 1997. 'Beer bingeing and mortality: results from the Kuopio ischaemic heart disease risk factor study, a prospective population based study'. *British Medical Journal* 315:846-51
189. Kee F, Gaffney S, Currie S, O'Reilly D. 1993. Access to coronary catheterisation: fair shares for all? *British Medical Journal* 307:1305-7
190. Keefe FJ, Lumley MA, Buffington ALH, Carson JW, Studts JL, et al. 2002. Changing face of pain: Evolution of pain research in psychosomatic medicine. *Psychosomatic Medicine* 64:921-38
191. Kelleher D. 1996. A defence of the use of the terms 'ethnicity' and 'culture'. In *Researching cultural differences in health*, ed. Kelleher D, Hillier S, 4:69-90 pp. London: Routledge. 69-90 pp.
192. Kennedy MM. 1979. Generalising from single case studies. *Evaluation Quarterly* 12:661-78
193. Kerver JM, Yang EJ, Bianchi L, Song WO. 2003. Dietary patterns associated with risk factors for cardiovascular disease in healthy US adults. *American Journal for Clinical Nutrition* 78:1103-10

194. Khunti K, Samani NJ. 2004. Coronary heart disease in people of South- Asian origin. *The Lancet* 364:2077-8
195. Kitzinger J. 1994. The methodology of focus groups: the importance of interaction between research participants. *Sociology of Health and Illness* 16:103-21
196. Kitzinger J. 2000. Focus groups with users and providers of health care. In *Qualitative Research in Health Care.*, ed. Pope C, Mays N, 3:20-30 pp. London: BMJ Publishing group. 20-30 pp.
197. Klatsky AL, Armstrong MA, Friedman GD. 1990. Risk of cardiovascular mortality in alcohol drinkers, ex-drinkers and non-drinkers. *American Journal of Cardiology* 66:1237-42
198. Klatsky AL, Friedman GD, Armstrong MA, Kipp H. 2003. Wine, Liquor, Beer and Mortality. *American Journal of Epidemiology* 158(6):585-95
199. Korpi T. 2001. Accumulating Disadvantage: Longitudinal analysis of unemployment and physical health in representative samples of the Swedish population. *European Sociological Review* 17(3):255-73
200. Kravitz RL. 1999. Ethnic differences in use of cardiovascular procedures: new insights and new challenges. *Annals of International Medicine* 130:231-3

201. Krieger N. 1992. Overcoming the absence of socioeconomic data in medical records: validation and application of a census-based methodology. *American Journal of Public Health* 82:703-10
202. Krieger N, Williams DR, Moss NE. 1997. Measuring social class in US public health research: Concepts, methodologies and guidelines. *Annual Review of Public Health* 18:341-78
203. Krueger RA. 1988. *Focus Groups: A practical guide for applied research*. Newbury Park, CA: SAGE.
204. Krueger RA, Casey MA. 2000. *Focus Groups: A Practical Guide for Applied Research*. London: SAGE.
205. Kuper H, Marmot M. 2003. Job strain, job demands, decision latitude and risk of coronary heart disease within the Whitehall II study. *Journal of Epidemiology and Community Health* 57:147-53
206. Landy D. 1977. *Culture, Disease and Healing: Studies in Medical Anthropology*. London: Collier MacMillan.
207. LaRosa JH, Horan MJ, Passamani ER. Proceedings of the National Heart Lung and Blood Institute symposium on Rapid identification and treatment of acute myocardial infarction: issues and answers. (eds). 1991. Rockville, Md. National Heart Lung and Blood Institute. National Institute of health., US Department of Health and Human Services.

Ref Type: Conference Proceeding

208. Larousse. 1995. *Dictionary of Science and Technology*. New York: Larousse.
209. Latour PJ, Perez HS. 1996. Prehospital delay in patients with ischaemic chest pain in the Province of Alicante. Multicenter study of prehospital delay in patients with chest pain. *Medicina Clínica* 107:81-5
210. Law MR, Frost CD, Wald NJ. 1991. Analysis of data from trials of salt reduction. *British Medical Journal* 302:812-24
211. Law MR, Morris JK, Wald NJ. 1997. Environmental tobacco smoke exposure and ischaemic heart disease: an evaluation of the evidence. *British Medical Journal* 315:973-80
212. Lawton J, Ahmad N, Hanna L, Douglas M, Hallowel N. 2006. 'I can't do any serious exercise': barriers to physical activity amongst people of Pakistani and Indian origin with Type 2 diabetes. *Health Education Research. Theory and Practice* 21:43-54
213. Lear JT, Lawrence IG, Pohl JEF, Burden AC. 1994. Myocardial infarction and thrombolysis: a comparison of the Indian and European populations on a coronary care unit. *Journal of Royal College of Physicians of London* 28(2):143-7

214. Leslie WS, Urie A, Hooper J, Morrison CE. 2000. Delay in calling for help during myocardial infarction: reasons for the delay and subsequent pattern of accessing care. *Heart* 84:137-41
215. Liew S, Sulfi S, Ranjadayalan k, et al. 2006. Declining case fatality rates for acute myocardial infarction in South Asian and White patients in the past 15 years. *Heart* 92:1030-4
216. Lincoln YS, Guba EG. 1985. *Naturalist Inquiry.*, Vols. 84. Newbury Park, CA.: SAGE.
217. Lip GY, Barnett AH, Bradbury A, Cappuccio FP, Gill PS, Hughes E, et al. 2007. Ethnicity and cardiovascular disease prevention in the United Kingdom: a practical approach to management. *Journal of Human Hypertension* 21:183-211
218. Lovering S. 2006. Cultural attitudes and beliefs about pain. *Journal of Transcultural Nursing* 17:389-95
219. Lowry PJ, Glover DR, Mace PJ, Littler WA. 1984. Coronary artery disease in Asians in Birmingham. *British Heart Journal* 52:610-3
220. Luhmann N. 1989. *Trust and Power*. New York, NY: John Wiley and Sons.
221. Lupton D. 2000. The heart of the meal: Food preferences and habits among rural Australian couples. *Sociology of Health and Illness* 22(1):94-109

222. Lynch JW, Smith GD, Kaplan GA. 2000. Income inequality and mortality: importance of health of individual income, psychosocial environment or material conditions. *British Medical Journal* 320:1200-4
223. MacLeod MCM, Finlayson AR, Findlay IN. 1999. Geographic, demographic and socioeconomic variations in the investigation and management of coronary heart disease in Scotland. *Heart* 81:252-6
224. Maggioni AP, Maseri A, Fresco C, Franzosi MG, Mauri F, Santoro E. 1993. Age-related increase in mortality among patients with first myocardial infarctions treated with thrombolysis. The investigators of the Gruppo Italiano per lo Studio della Sopravvivenza nell'Infarto Miocardio (GISSI - 2). *New England Journal of Medicine* 329:1442-8
225. Majeed A, Pollock AM. 1993. Health authorities should monitor equity of service. *British Medical Journal* 306:1689
226. Majeed FA, Chaturvedi N, Ben-Shlomo Y. 1994. Equity in the NHS Monitoring and promoting equity in primary and secondary care. *British Medical Journal* 308:1426-9
227. Majeed FA, Cook DG. 1996. Age and sex differences in the management of ischaemic heart disease. *Public Health* 110:7-12

228. Mak K-H, Chia K-S, Kark JD, Chua T, Tan C, et al. 2003. Ethnic differences in acute myocardial infarction in Singapore. *European Heart Journal* 24:151-60
229. Marmot MG, Adelstein AM, Bulusu L, Shukla V. 1984. *Immigrant mortality in England and Wales 1970-78. (OPCS Studies on Population and Medical Subjects: No. 47)*. London: HMSO, 1984,
230. Marshall C, Rossman GB. 1995. *Designing qualitative research*. Newbury Park, CA: SAGE.
231. Marshall J. 1986. Issues of evaluation. In *Qualitative methods in psychology: a research guide.*, ed. Banister P, Burman E, Parker I, Taylor M, Tindall C, 9:142-159 pp. Buckingham: Open University Press. 142-159 pp.
232. Matthews KA, Siegel JM, Kuller LH, Thompson M, Varat M. 1983. Determinants of decisions to seek medical treatment by patients with acute myocardial infarction symptoms. *Journal of Personality and Social Psychology* 44:1144-56
233. Maynard C, Althouse R, Olsufka M, Ritchie JL, Davis KB, Kennedy JW. 1989. Early versus late hospital arrival for acute myocardial infarction in the Western Washington thrombolytic therapy trials. *American Journal of Cardiology* 63:1296-300

234. Mays N, Pope C. 2006. Quality in qualitative health research. In *Qualitative research in health care. Third edition.*, ed. Pope C, May N, 8:82-101 pp. Oxford.: Blackwell Publishing Ltd. 82-101 pp.
235. McAllister G. 1992. Health beliefs: a cultural division? *Journal of Advanced Nursing* 17:1447-54
236. McEwan BS. 2008. Protective and Damaging Effects of Stress Mediators. *The New England Journal of Medicine* 338(3):171-9
237. McKeigue P, Sevak L. 1994. *Coronary Heart Disease in South Asian Communities. A manual for Health Promotion.* Health Education Authority.,
238. McKeigue PM, Miller GJ, Marmot MG. 1989. Coronary heart disease in South Asians overseas - a review. *Journal of Clinical Epidemiology* 42:597-609
239. McKeigue PM. 1992. Coronary heart disease in Indians, Pakistanis and Bangladeshis: aetiology and possibilities for prevention. *British Heart Journal* 67:341-2
240. McLeod J. 1994. *Doing Counselling Research.* London: SAGE.

241. Meadows KA. 2003. So you want to do research? 3. An introduction to qualitative methods. *British Journal of Community Nursing* 8(10):464-9
242. Mechanic D. 1996. Changing medical organisation and the erosion of trust. *The Milbank Quarterly* 74:171-89
243. Mechanic D, Schlesinger M. 1996. The impact of managed care on patients' trust in medical care and their physicians. *Journal of the American Medical Association* 275:1693-7
244. Medalie JH, Goldbourt U. 1976. Unrecognised myocardial infarction: five-year incidence, mortality and risk factors. *Annals of International Medicine* 84:526-31
245. Meischke H, Eisenberg MS, Larsen MP. 1993. Prehospital delay interval for patients who use emergency medical services: The effect of heart-related medical conditions and demographic variables. *Annals Emergency Medicine* 22:1597-601
246. Meischke H, Ho MT, Eisenberg MS, Schaeffer SM, Larsen MP. 1995. Reasons patients with chest pain delay or do not call 911. *Annals Emergency Medicine* 25:193-7
247. Mervyn L. 1990. *Heart Disease. A practical guide to all aspects of heart disease and its prevention*. Thorsons Publishers Limited. England.

248. Meyer BJ, Meier B, Bonzel T. 1996. Interventional cardiology in Europe.
European Heart Journal 17:1318-28
249. Mindell J, Zaninotto P. 2006. *Cardiovascular disease and diabetes in Health Survey for England 2004. Minority Ethnic Groups*. London. The Information Centre.,
250. Modood T, Berthoud R, Lakey J, Nazroo J, Smith P, et al. 1997. *Ethnic Minorities in Britain: Diversity and Disadvantage*. London Policy Studies Institute.
251. Morgan D, Krueger RA. 1993. 'When to use focus groups and why'. In *Successful Focus Groups*., London: SAGE.
252. Morris RW, Whincup PH, Papacosta O, Walker M, Thomas A. 2005.
Inequalities in coronary revascularisation during the 1990s: evidence from the British regional heart study. *Heart* 91:635-40
253. Moser DK, Kimble LP, Iberts MJ, Lonzo A, Croft JB, et al. 2006. Reducing delay in seeking treatment by patients with acute coronary syndrome and Stroke: A scientific statement from the American Heart Association Council on cardiovascular nursing and Stroke Council.
Circulation 114:168-82
254. Moss AJ, Wynar B, Goldstein S. 1969. Delay in hospitalisation during the acute coronary period. *American Journal of Cardiology* 24:659-65

255. Mukhtar HLW, Littler WA. 1995. Survival after myocardial infarction in Asian and White patients in Birmingham. *British Heart Journal* 73:122-4

256. Murray CJL, Lopez AD. The Global Burden of Disease: A Comprehensive Assessment of Mortality and Disability From Diseases, injuries and Risk Factors in 1990 and Projected to 2020.eds. 1996. Cambridge, Mass:Harvard University Press, 1996.

Ref Type: Serial (Book,Monograph)

257. Naish J, Brown J, Denton B. 1994. Intercultural consultations: investigation of factors that deter non-English speaking women from attending their general practitioners for cervical screening. *British Medical Journal* 309:1126-8

258. Naqvi H. 2003. *Access to primary health care services for South Asian cardiovascular disease patients. Health care professionals perspective.* National Health Survey,

259. Nath BS, Murthi R. 1988. Cholesterol in Indian Ghee. *The Lancet* ii:39

260. National Heart Attack Alert Programme Coordinating Committee 6MtTWG. 1994. Emergency department:rapid identification and treatment of patients with acute myocardial infarction. *Annals Emergency Medicine* 23:311-29

261. National Statistics. 2005. *Ethnicity and Identity*.
262. National Statistics. 2006. *Labour Market*.
263. National Statistics. 2009. *General Lifestyle Survey 2008*.
264. National Statistics. 2010. *Deaths registered by cause, sex and age*. England and Wales
265. National Statistics. 2006. *Religion*.
266. Nayak S, Shiflett SC, Eshun S, & Levin FM. 2000. Culture and gender effects in pain beliefs and the prediction of pain tolerance. *Cross Cultural Research* 34:135-51
267. Nazroo J. 1997. *The Health of Britains ethnic minorities: Findings from a National Survey*. London: Policy Studies Institute.
268. Nazroo J. 1998. Genetic cultural and socioeconomic vulnerability? Explaining ethnic inequalities in health. *Sociology of Health and Illness* 20(5):710-30
269. Neel JV, Weder AB, Julius S. 1998. Type II diabetes, essential hypertension and obesity as 'syndromes of impaired genetic homeostasis'. *Perspectives in Biology and Medicine* 42:44-74

270. Ng B, Dimsdale JE, Shragg GP, Deutsch R. 1996. Ethnic differences in analgesic consumption for postoperative pain. *Psychosomatic Medicine* 58(2 (March/April)):125-9
271. NHS Centre for Reviews and Dissemination. 1997. Management of stable angina. *Effective Health Care Bulletin*. 3:1-8
272. Njobvu P, Hunt I, Pope D, Macfarlane G. 1999. Pain amongst ethnic minority groups of South Asian origin in the United Kingdom: a review. *Rheumatology* 38:1184-7
273. Nordenfelt L. 1995. *On the Nature of Health, an Action-Theoretic Approach*. Dordrecht, Boston and London: Kluwer Academic Press.
274. Nordenfelt L. 2001. *Health, Science and Ordinary Language*. Amsterdam and New York (NY): Editions Rodopi.
275. Norris RM. 1998. Fatality outside hospital from acute coronary events in three British health districts, 1994-95. *British Medical Journal* 316:1065-70
276. O'Loughlin J. 1999. Understanding the role of ethnicity in chronic disease: a challenge for the new millenium. *Canadian Medical Association Journal* 161(2):152-3

277. Office of National Statistics. 2001. *Census 2001. Key Statistics for local authorities in England and Wales. 'Ethnic Group, KSO6'*. Office of National Statistics.,
278. Oppenheim AN. 1992. Standardised Interviews. In *Questionnaire design, interviewing and attitude measurement*, ed. Oppenheim AN, 6:81-100 pp. London: Pinter Publishers. 81-100 pp.
279. Ounpuu S, Yusuf S. 2003. Singapore and coronary heart disease: a population laboratory to explore ethnic variations in the epidemiological transition. *European Heart Journal* 24:127-9
280. Owen CG, Nightingale CM, Rudnicka AR, et al. 2009. Ethnic and gender differences in physical activity levels among 9-10 year old children of white European, South Asian and African-Caribbean origin: The Child Heart Health Study in England (CHASE). *International Journal of Epidemiology* 38:1082-93
281. Palmer B, Macfarlane G, Afzal C, Esmail A, et al. 2007. Acculturation and the prevalence of pain amongst South Asian minority ethnic groups in the UK. *Rheumatology* 46:1009-41
282. Pasternak RC, Grundy SM, Levy D, et al. 1996. Spectrum of risk factors for coronary heart disease. *Journal of American College of Cardiology* 27:978-90

283. Patel JV, Vyas A, Cruickshank JK, Prabhakaran D, Hughes E, et al. 2006. Impact of migration on coronary heart disease risk factors: Comparison of Gujaratis in Britain and their contemporaries in villages of origin in India. *Atherosclerosis* 185(2):297-306
284. Patel S, Peacock SM, McKinley RK, et al. 2008. GPs' experience of managing chronic pain in a South Asian community - a qualitative study of the consultation process. *Family Practice* 25:71-7
285. Pattenden J, Watt I, Lewin RJP, Stanford N. 2002. Decision making processes in people with symptoms of acute myocardial infarction: qualitative study. *British Medical Journal* 324:1006-10
286. Patton MQ. 2002. *Qualitative Research and Evaluation Methods*. Thousand Oaks.CA.: Sage.
287. Pearce MS, Hayes L. 2005. Self-reported smoking status and exhaled carbon monoxide: Results from two population-based epidemiologic studies in the North of England. *Chest* 128(3):1233-8
288. Pearce N, Foliaki S, Sporle A, Cunningham C. 2004. Genetics, race, ethnicity and health. *British Medical Journal* 328:1070-2
289. Pearson SD, Raeke LH. 2000. Patients Trust in Physicians: Many Theories, Few Measures and Little Data. *Journal of General Internal Medicine* 15:509-13

290. Penny WJ. 2001. Patient delay in calling for help: the weakest link in the chain of survival? *Heart* 85:121-2
291. Perry K, Petrie KJ, Ellis CJ, Horne R, Moss-Morris R. 2001. Symptom expectations and delay in acute myocardial infarction patients. *Heart* 86:91-3
292. Petersen S, Peto V. 2004. *Smoking Statistics in British Heart Foundation*. London,
293. Petersen S, Peto V, Rayner M. 2004a. *Coronary heart disease statistics*. British Heart Foundation. London,
294. Petersen S, Peto V, Rayner M. 2004b. *Physical activity in Coronary Heart Disease statistics*. British Heart Foundation.,
295. Peto R, Lopez A, Boreham J, Thun M. 2004. *Mortality from smoking in developed countries 1950-2000 (2nd edition)*. Oxford University Press. Oxford,
296. Petrie KJ, Weinman JA. 1997. *Perception of Health and Illness*.Eds. Amsterdam: Harwood Academic. 441-462 pp.
297. Petticrew M, McKee M, Jones J. 1993. Coronary heart disease. Are women discriminated against? *British Medical Journal* 306:1164-6

298. Pfeffer N. 1998. Theories in health care research: Theories of race, ethnicity and culture. *British Medical Journal* 317:1318-84
299. Pilowsky I, Spence ND. 1977. Ethnicity and Illness Behaviour. *Psychology and Medicine* Aug 7(3):447-52
300. Pope JH, Aufderheide TP, Ruthazer R, et al. 2000. Missed diagnosis of acute cardiac ischaemia in the emergency department. *New England Journal of Medicine* 342:1207-10
301. Primatesta P, Sproston Ke. 2000. *The Health Survey for England 1999*. The Stationary Office. London.,
302. Qureshi B. 1990. Diet and Nutrition. In *Health Care for Asians*, ed. McAvoy BR, Donaldson LJ, 8:117-129 pp. Oxford: Oxford University Press. 117-129 pp.
303. Rathore SS, Lenert LA, Weinfurt KP, Tinoco A, et al. 2000. The effects of patient sex and race on medical students' ratings of quality of life. *Americal Journal of Medicine* 108:561-6
304. Ratner PA, Tzianetas R, Tu AW, Johnson JL, Mackay M, et al. 2006. Myocardial infarction symptom recognition by the lay public: the role of gender and ethnicity. *Journal of Epidemiology and Community Health* 60:606-15

305. Reddy KS. 1993. Cardiovascular disease in India. *World Health Statistics Quarterly* 46:101-7
306. Reddy KS, Yusuf S. 1998. Emerging epidemic of cardiovascular disease in developing countries. *Circulation* 97:596-601
307. Reed DM, LaCroix AZ, Karazek RA, Miller D, MacLean CA. 1989. Occupational Strain and the Incidence of Coronary Heart Disease. *American Journal of Epidemiology* 129(3):495-502
308. Ritchie J, Lewis J. 2003. *Qualitative Research Practice: A guide for Social Science Students and Researchers*. London: SAGE Publications Ltd.
309. Ritchie J, Lewis J, Elam G. 2003. Designing and selecting samples. In *Qualitative Research Practice: A Guide for Social Science Students and Researchers*, ed. Ritchie J, Lewis J, 4:77-108 pp. London: SAGE Publications Ltd. 77-108 pp.
310. Ritchie J, Spencer L. 1994. 'Qualitative data analysis for applied policy research'. In *Analysing Qualitative Data*, ed. A. Bryman and R.G. Burgess, 9:173-194 pp. London: Routledge. 173-194 pp.
311. Rollman GB. 2004. Ethnocultural Variations in the Experience of Pain. In *Pain: Psychological Perspectives*, ed. Hadjistavropoulos T, Craig KD, 6:155-178 pp. London: Lawrence Erlbaum Associates. 155-178 pp.

312. Roupie E. 1998. L'infarctus du myocarde au service d'accueil et d'urgences: Une entite particuliere ou la predominance des atypies?... - Myocardial infarct in the admission and emergency service: a particular entity or predominant atypia?...). *Presse Médicale* 27:1636-7
313. Ruston A, Clayton J, Calnan M. 1998. Patients' action during their cardiac event: qualiatative study exploring differences and modifiable differences. *British Medical Journal* 316:1060-5
314. Salant T, Lauderdale DS. 2003. Measuring culture: a critical review of acculturation and haelth in Asian immigrant populations. *Social Science and Medicine* 57:71-90
315. Sandelowski M. 1986. The problem of rigour in qualitative research. *Advances in Nursing Science*. 8:27-37
316. Sandelowski M. 1993. Rigor or rigor mortis: the problem of rigor in qualitative research revisited. *Advances in Nursing Science*. 16(2):1-8
317. Scarborough P, Bhatnagar P, Wickramsinghe K, et al. 2010. *Coronary Heart Disease Statistics*. Department of Public Health, University of Oxford,
318. Schmidt SB, Borsch MA. 1990. The prehospital phase of acute myocardial infarction in the era of thrombolysis. *American Journal of Cardiology* 65:1411-5

319. Schnohr P, Scharling H, Jensen JS. 2003. Changes in leisure-time physical activity and risk of death: An observational study of 7000 men and women. *American Journal of Epidemiology* 158:639-44
320. Seligman AB. 1997. *The problem of trust*. Princeton, NJ: Princeton University Press.
321. Senior PA, Bhopal R. 1994. Ethnicity as a variable in epidemiological research. *British Medical Journal* 309:327-30
322. Shah SM, Cook DG. 2008. Socio-economic determinants of causality and NHS Direct Use. *Journal of Public Health* 30(1):75-81
323. Shaukat N, de Bono DP, Cruickshank JK. 1993. Clinical features, risk factors and referral delay in British patients of Indian and European origin with angina matched for age and extent of coronary atheroma. *British Medical Journal* 307:717-8
324. Shaukat N, Lear J, Lowy A, Fletcher S, de Bono DP, Woods KL. 1997. First myocardial infarction in patients of Indian subcontinent and European origin: comparison of risk factors, management and long term outcome. *British Medical Journal* 314:639-42
325. Sheifer SE, Escarce JJ, Schulman KA. 2000a. Race and sex differences in the management of coronary artery disease. *American Heart Journal* 139:848-57

326. Sheifer SE, Rathore SS, Gersh BJ, Weinfurt KP, Oetgen WJ, et al. 2000b.
Time to presentation with acute myocardial infarction in the elderly:
associations with race, sex and socioeconomic characteristics.
Circulation 102:1651-6
327. Sheiner EK, Sheiner E, Shoham-Vardi I, Mazor M, Katz M, et al. 1999. Ethnic
differences influence care giver's estimates of pain during labour. *Pain*
81:299-305
328. Sheldon TA, Parker H. 1992. Race and Ethnicity in health research. *Journal of
Public Health Medicine* 14:104-10
329. Sheth T, Nair C, Nargundkar M, Anand S, Yusuf S. 1999. Cardiovascular and
cancer mortality among Canadians of European, South Asian and
Chinese origin from 1979 to 1993: an analysis of 1.2 million deaths.
Canadian Medical Association Journal 161:132-8
330. Shulman KA, Berlin JA, Harless W, Kerner JF, Sistrunk S, Gersh BJ, et al.
1999. The effect of race and sex on physician's recommendations for
cardiac catheterization. *New England Journal of Medicine* 340:618-26
331. Sigurdsson E, Thorgeirsson G, Sigvaldason H, Sigfusson N. 1995.
Unrecognised myocardial infarction: epidemiology, clinical
characteristics and the prognostic role of angina pectoris. The
Reykjavik Study. *Annals of International Medicine* 122:96-102

332. Silverman D. 1993. *Interpreting qualitative data: Methods for analysing talk, text and interaction*. London: SAGE.
333. Simmons D, Williams R. 1997. Dietary practices among Europeans and different South Asian groups in Coventry. *British Journal of Nutrition* 78:5-14
334. Singh RB, Sharma JP, Rastogi V, Raghuvanshi RS, et al. 1997. Prevalence of coronary artery disease and coronary risk factors in rural and urban populations of north India. *European Heart Journal* 18(11):1728-35
335. Skevington SM. 2001. Pain and symptom perception. In *Culture, Health and Illness*, ed. Helman CG, 8:182-206 pp. London: Arnold. 182-206 pp.
336. Smith Z, Knight T, Sahota P, Kernohan E, Baker M. 1993. Dietary patterns in Asian and Caucasian men: differences and implications for health education. *Journal of Human Nutrition and Dietetics* 6:323-34
337. Spencer I, Unwin N, Pledger G. 1995. Hospital investigation of men and women treated for angina. *British Medical Journal* 310:1576
338. Stamatakis E. 2006. *Health Survey for England. 2004. Volume 1. The health of minority ethnic groups*. London. The information Centre.
339. Starfield B. 1993. *Primary care - concept, evaluation and policy*. Oxford: Oxford University Press.

340. Steingart RM, Packer M, Hamm P, Coglianese ME, Gersh B, Geltman EM, et al. 1991. Sex differences in the management of coronary artery disease. *New England Journal of Medicine* 325:226-30
341. Stiles WB. 1993. Quality control in qualitative research. *Clinical Psychology Review* 13(6):593-618
342. Stone PH, Thompson B, Anderson V, Kronenberg MW, Gibson RS, et al. 1996. Influence of race, sex and age on management of unstable angina and non-Q wave myocardial infarction. The TIMI III registry. *Journal of the American Medical Association* 275:1104-12
343. Suarez-Orozco MM. 1991. Migration, minority status and education: European dilemmas and response in the 1990s. *Anthropology and Educational Quarterly* 22:99-120
344. Talbani A, Hasanali P. 2000. Adolescent females between tradition and modernity: gender role socialization in South Asian immigrant culture. *Journal of Adolescence* 23:615-27
345. Task Force Report. 1998. The prehospital management of acute heart attacks. Recommendations of a task force of the European Society of Cardiology and the European Resuscitation Council. *European Heart Journal* 19:1140-64

346. Teers R. 1999. *Physical activity in Health Survey for England. The Health of Minority Ethnic Groups '99. Volume 1*. Department of Health,
347. The World Health Report. 1999. *Making a difference*. Geneva: World Health Organisation.
348. Thiesen ME, MacNeill SE, Lumley MA, Ketterer MW, Goldberg AD, Borzak S. 1995. Psychological factors related to unrecognised acute myocardial infarction. *American Journal of Cardiology* 75(17):1211-3
349. Thom DH. 2001. Physician behaviours that predict patient trust. *Journal of Family Practice* 50(4):1-7
350. Thom DH, Cambell B. 1997. Patient-physician trust: an exploratory study. *Journal of Family Practice* 44:169-76
351. Tod AM, Read C, Lacey A, Abbott J. 2001. Barriers to uptake of services for coronary heart disease: qualitative study. *British Medical Journal* 323:1-5
352. Todd KH, Samaroo N, Hoffman JR. 1993. Ethnicity as a risk factor for inadequate emergency department analgesia. *Journal of the American Medical Association* 269:1537-9
353. Treasure T. 1998. Pain is not the only feature of a heart attack. *British Medical Journal* 317(7158):602

354. Trevelyan J, Needham EWA, Halim M, Singh H, Been M, et al. 2001.
Evaluation of patient characteristics and utilisation of invasive cardiac
procedures in a UK ethnic population with unstable angina pectoris.
International Journal of Cardiology 77:275-80
355. Trevino FM. 1999. Quality of health care for ethnic/racial minority
populations. *Ethnic Health* 4:153-64
356. Trow M. 1957. Participant observation and interviewing: a comparison.
Human Organisation 16:33-5
357. Tu JV, Naylor CD, Kumar D. 1997. Coronary artery bypass graft surgery in
Ontario and New York State: which rate is right? *Annals of Internal
Medicine* 126:13-9
358. Turi ZG, Stone PH, Muller JE, et al. 1986. Implications for acute intervention
related to time of hospital arrival in acute myocardial infarction.
American Journal of Cardiology 58:203-9
359. U.S Department of Health and Human Services. 1996. *Physical activity and
health: a report of the surgeon general*. Centres for Disease Control.,
Atlanta,GA;
360. U.S Department of Health and Human Services. 2006. *What is angina?*
National Institutes of Health,

361. UK Heart Attack Study Collaborative Group. 1998. Effect of time from onset to coming under care on fatality of patients with acute myocardial infarction: effect of resuscitation and thrombolytic therapy. *Heart*

362. Unal B, Critchley JA, Capewell S. 2004. Explaining the decline in coronary heart disease mortality in England and Wales between 1981 and 2000. *Circulation* 109:1101-7

363. Ustun B, Jakob R. Re-defining 'Health'. Bulletin of the World Health Organisation . 2005.

Ref Type: Electronic Citation

364. Van Spijk P. 1991. Definition und Beschreibung der Gesundheit, in Johannes Bircher, Towards a dynamic definition of Health and Disease. *Medicine, Health Care and Philosophy* 8:335-41

365. Van Wieringen JCM, Harmsen JAM, Bruijnzeels MA. 2002. Intercultural communication in general practice. *European Journal of Public Health* 12:63-8

366. Volmink JA, Newton JN, Hicks NR, Sleight P, Fowler GH, Neil HAW. 1998. Coronary event and case fatality rates in an English population: results of the Oxford myocardial infarction incidence study. *Heart* 80(1):40-4

367. Ward B, de Chazal P, Mayberry JF. 2004. Can an information booklet on an ethnic minority increase the knowledge base of junior doctors?
Postgraduate Medical Journal 80:219-20
368. Wardle H. 2006. *Use of tobacco products. In Sproston and Mindell (Eds).Health Survey for England 2004: Volume 1: The health of minority ethnic groups.* The information centre, London
369. Weaver WD. 1995. Time to thrombolytic therapy: factors affecting delay and their influence on outcome. *Journal of American College of Cardiology* 25 (supplement):3s-9s
370. Weaver WD, Cerqueira M, Hallstrom AP, et al. 1993. Prehospital initiated versus hospital initiated thrombolytic therapy. The Myocardial Infarction Triage and Intervention Trial. *Journal of the American Medical Association* 270:1211-6
371. Weinman J. 1981. Pain and Culture. In *Culture, Health and Illness*, ed. Helman CG, 7:128-135 pp. New York: Arnold. 128-135 pp.
372. Wild S, McKeigue P. 1997. Cross sectional analysis of mortality by country of birth in England and Wales, 1970-92. *British Medical Journal* 314:705-10
373. Wilkinson S. 1988. 'The role of reflexivity in feminist psychology'. *Women's studies International Forum* 11(5):493-502

374. Williams ED, Stamatakis E, Chandola T, Hamer M. 2009. Assessment of physical activity levels in South Asians in the UK: findings from the Health Survey for England. *Journal of Epidemiology and Community Health*
375. Wilson PW, D'Agostino RB, Levy D, et al. 1998. Prediction of coronary heart disease using risk factor categories. *Circulation* 97:1837-47
376. World Health Organisation. 2002. *Reducing risks, promoting healthy life*. World Health Organisation. Geneva,
377. World Health Organisation. 2004. *Reducing risks, promoting healthy life*. World Health Organisation. Geneva,
378. World Health Organisation. 2005. *Preventing chronic diseases: a vital investment*. Geneva
379. Yarzebski J, Goldberg RJ, Gore JM, Alpert JS. 1994. Temporal trends and factors associated with extent of delay to hospital arrival in patients with acute myocardial infarction: The Worcester Heart Attack Study. *American Heart Journal* 128:255-63
380. Yusuf S, Reddy S, Ôunpuu S, Anand S. 2001a. Global burden of cardiovascular disease: Part I: General considerations, the epidemic transition, risk factors and impact of urbanisation. *Circulation* 104:2746-53

381. Yusuf S, Reddy S, Ôunpuu S, Anand S. 2001b. Global burden of cardiovascular disease:part II:Variations in cardiovascular disease by specific ethnic groups and geographical regions and prevention strategies. *Circulation* 140:2855-64
382. Zborowski M. 1952. Cultural components in response to pain. *Journal of Social Issues* 8:16-30
383. Zola I. 1973. Pathways to the doctor: from person to patient. *Social Science and Medicine* 7:677-889

Appendix 1

2.1 Coronary heart disease

Approximately the size of a fist and weighing around 10oz, the heart works as a pump which has to beat about 40 millions times each year in-order to sustain life. Vital blood vessels referred to as coronary arteries supply the heart muscle with oxygen and nutrients in-order to keep it functioning and healthy (Davidson 1998). Healthy coronary arteries initially consist of a supple wall of muscle and elastic tissue enabling response to and maintenance of blood pressure. Retention of this suppleness throughout life would mean coronary heart disease would never occur (Mervyn 1990). However, these healthy arteries deteriorate over time and with age (Davidson 1998, Mervyn 1990) resulting in coronary heart disease. This process involves the gradual discolouration of the artery lining as it becomes thickened and roughened by the build up of numerous cells in the wall. Simultaneously, fat deposits and other blood components become deposited in or onto the artery, reducing the inner diameter of the vessel resulting in the artery losing its elasticity. This condition is referred to as atherosclerosis, otherwise known as 'hardening of the arteries' and results in the heart muscle receiving a reduced blood supply (Mervyn 1990). Once a certain point has been reached with the narrowing of the arteries and blood supply is too low for the heart acute coronary syndrome can occur. Acute coronary syndrome includes numerous conditions including angina, acute myocardial infarction (heart attack), CHD, arrhythmia, heart failure and will be described in more detail.

2.1.2 Angina

Angina usually occurs when the blood supply to the heart muscle becomes reduced. The pain associated with angina usually arises during physical activity and occasionally during rest. A crushing chest pain usually occurs which can travel to the jaw, left arm and hand (U.S Department of Health and Human Services 2006).

2.1.2.1 Types of Angina

There are three types of angina which are referred to as stable angina, unstable angina and variant angina.

2.1.2.2 Stable angina

This is the most common form of angina, occurring as a result of increased workload on the heart. Stable angina has a regular pattern making future episodes predictable. The pain associated with stable angina usually goes away quickly following rest or medication. Although stable angina is not a heart attack, it does increase the probability of sufferers experiencing a future heart attack (U.S Department of Health and Human Services 2006).

2.1.2.3 Unstable angina

Unstable angina requires emergency treatment since it is highly likely that a heart attack will follow. Unstable angina does not have a recognisable pattern and can occur without any physical activity or exertion. Rest or medication does not relieve symptoms associated with unstable angina (U.S Department of Health and Human Services 2006).

2.1.2.4 Variant angina

Although a rare condition, variant angina frequently occurs during rest, between the hours of midnight and early morning. Symptoms of variant angina can include severe pain but medication effectively relieves sufferers of this pain (U.S Department of Health and Human Services 2006).

2.1.3 Acute myocardial infarction

Acute myocardial infarction (MI) is referred to as a heart attack, coronary thrombosis or a coronary. A myocardial infarction usually occurs suddenly as a result of a blood clot (thrombus) which forms in the artery and obstructs blood flow (Davidson 1998, Mervyn 1990). This results in part of the heart muscle becoming starved of its blood supply and dying (Davidson 1998). In this situation the individual could die or make a full recovery. Those who survive may develop long term health problems such as angina, chronic arrhythmia and chronic chest pain and suffer further heart attacks (Department of Health 1992).

2.1.4 Ischaemic Heart Disease

Ischaemia occurs when blood vessels become narrow and blood supply to the heart muscle becomes reduced (Davidson 1998).

2.1.5 Arrhythmia

Arrhythmia results when an individual suffers from irregular heart beats leading to breathlessness and palpitations (Davidson 1998).

2.1.6 Heart failure

Heart failure occurs when the heart is no longer able to perform as required by the demands of the body. This leads to swollen ankles and breathlessness (Davidson 1998). The onset of this problem can occur suddenly or slowly (Department of Health 1992).

2.2 Treatment following myocardial infarction

During the early stages of a myocardial infarction thrombolysis, which involves the use of a 'clot busting' drug is administered via injection. This is considered to be an effective treatment, for reducing blood clots and reducing muscle damage (GISSI - (Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardio) 1986, Ruston et al 1998) combating the root of the problem by thinning the blood (Davidson 1998). Alternative procedures which have been used for over half a century to

improve blood flow include coronary artery bypass surgery (CABG) or percutaneous angioplasty (PCTA) (Davidson, 1998; Taggart et al, 2010). CABG surgery involves bypassing arteries with an artery or vein taken from the leg or chest. PCTA surgery entails stretching arteries by taking a long thin balloon with a wire mesh (stent, covering balloon), being passed across the region of the vessel which has become narrow, over a thin guiding wire. Once the balloon and stent are at the narrow point the balloon and stent are inflated using high pressure to stretch the artery, whilst splitting the fat deposits which have become lodged in the wall. The artery remains open because the stent remains in place even after the balloon is deflated and removed. Angioplasty is used for people with one or two areas which have become narrow in the arteries. Those with numerous narrowed arteries have CABG surgery due to the long term benefits (Davidson 1998).

The success of both these procedures has been highlighted by recent studies (Bridgewater and Kinsman, 2009) which have reported 1.1% mortality rates amongst 78,000 CABG patients treated from 2004 – 2008 in the UK . Taggart et al (2010) have reported similar findings from arterial revascularisation trials and elective stenting where mortality is even lower (0.3%).

2.2.1 The effectiveness of treatment related to time delays

Thrombolytic treatment is an effective drug treatment but its efficacy is dependent on time to treatment following symptom onset (Berger et al 1999, Goldberg et al 1998) Those patients that receive care within an hour of symptom onset gain the most benefit from thrombolytic treatment (Dracup et al 2003, Gurwitz et al 1997, UK

Heart Attack Study Collaborative Group. 1998) since they are less likely to suffer premature death or disability (Fibrinolytic Therapy Trials (FTT) collaborative group 1994, GISSI - (Gruppo Italiano per lo Studio della Streptochinasi nell'Infarto Miocardio) 1986, Ruston et al 1998, Weaver et al 1993, ISIS - 2 (Second international study of infarct survival) 1988) As a result, patients who respond rapidly to chest pain symptoms are more likely to receive thrombolytic therapy than those who seek care after 6 hours (Goff et al 1995, Goldberg et al 1992b, National Heart Attack Alert Programme Coordinating Committee 1994). This style of health care delivery has resulted from clinical trials demonstrating that the benefits of thrombolytic therapy diminish 6 hours after the initial onset of myocardial infarction symptoms (National Heart Attack Alert Programme Coordinating Committee 1994). Despite this there are long gaps between the onset of symptoms and the delivery of care for many patients (Weaver 1995). The median time patients wait to call for help following the onset of symptoms for an acute MI is two to six and a half hours (Goff et al 1995, Task Force Report 1998, Yarzebski et al 1994, Schmidt & Borsch 1990). Therefore patients who wait more than 2 hours to seek medical care are more likely to receive angioplasty (Steg et al, 2003; Widimsky et al, 2003).

Symptoms that increase or decrease in intensity are difficult for patients to identify as heart disease and approximately one third of patients with sudden symptoms do not report them (Dracup et al 1995). Hence, the patient's decision time regarding the severity of their chest pain symptoms and whether they feel their symptoms warrant hospital attention, add to the delay time, before they access the health service and gain the appropriate treatment (Birkhead 1992, Norris 1998). This has lead to the conclusion that the patient's decision to summon help is the largest component of

delay in seeking care (Dracup et al 1995, Gurwitz et al 1997, Leslie et al 2000, Task Force Report 1998).

Studies have shown that educational initiatives aimed at shortening patient delays following chest pain do not have any lasting effects (Blohm, 1997). These findings are supported by a recent observational study claiming that older age of patients may add to prehospital delays (Birkhead et al, 2004).

The same study (Birkhead et al, 2004) used an electronic data and analysis system (MINAP) to collect data over 3 years from Oct 2000 – Sept 2003 from 230 hospitals in England and Wales. The system provided up to date feedback on improvements in care for acute coronary syndrome (ACS). Results showed that fewer than 20% of patients who called for help reached hospital within 30 minutes. Therefore patients were still not reaching hospital any faster. However 45 minutes was the mean time it took patients to reach hospital suggesting prehospital thrombolytic treatment would still be beneficial. Clearly reducing ambulance times may be difficult and unrealistic but prehospital treatment or an ECG en route may be time saving once patients have arrived at hospital. At the moment prehospital thrombolytic treatment is only provided by 12 of the 31 (39%) regional ambulance services and only 350 patients were given such treatment in 2003 (Cook, 2003).

In contrast to prehospital care 77.6% of patients arriving at hospital received thrombolytic treatment within 30 minutes compared to 6 months earlier where this percentage was 42.6%. Such improvements have occurred because of the organisational changes within hospitals. Clinicians now provide emergency thrombolytic treatment opposed to on-call emergency teams resulting in higher rates

of thrombolytic treatment (75.4%) than reported elsewhere (Eagle et al, 2002).

Birkhead et al (2008) confirmed that in 2008, 40% of eligible patients received optimum reperfusion.

2.2.2 Summary

The most common cause of death in the UK is coronary heart disease (Scarborough, 2010). The underlying process, resulting in the narrowing of the coronary arteries begins during childhood. However, it is only during middle age that the disease becomes apparent (Department of Health 1992). By this stage a large proportion of those suffering such symptoms will have severe disease (Department of Health 1992). Despite technological advances in the treatment of myocardial infarction, application of this treatment remains difficult. The difficulty lies with the patient since life saving treatment is only offered to those who have responded promptly to their symptoms (Moser et al 2006, Ruston et al 1998).

Appendix 3

Dear Mr....

Health and Lifestyle Survey

A few weeks ago you helped us with some important research about health and health care. We would now like to invite you to take part in the third and final part of our study. It is often difficult to understand how people think about health and the health service by asking simple questions on paper. We would therefore like to interview you with a group of about 6 other people from the local community. The whole group will discuss health and the health service.

The discussion group will be arranged at a time and place which is most suitable for you to attend.

This discussion will take about one hour and all the information will remain totally confidential.

Light refreshments will be provided at the end of the discussion to all those who are able to attend. Transport will be available if you are unable to arrange transport.

Please return the reply slip at the bottom of this letter, whether you are interested in taking part or not. A **freepost envelope** is enclosed. If you think you may be interested, please give us a telephone number where we can contact you to give you more details about the study.

We do hope you can help us with this study and look forward to hearing from you.

Thank you for all your help.

Yours sincerely

Harbinder Sahota.

Please delete as appropriate.

Name and address -----

I may be interested in taking part in the discussion group and would like further details.

My contact phone number is

I do not wish to participate in the discussion group.

Please return this slip in the freepost envelope enclosed (no stamp required).

6036

Appendix 4

Dear Mr....

Health and Lifestyle Survey

A few weeks ago you helped us with some important research about health and health care. We would now like to invite you to take part in the third and final part of our study. It is often difficult to understand how people think about health and the health service by asking simple questions on paper. We would therefore like to interview you to discuss health and the health service.

The interview will be arranged at a time and place that is most suitable for you.

This interview will take about one hour and all the information will remain totally confidential.

Please return the reply slip at the bottom of this letter, whether you want to take part or not. A **freepost envelope** is enclosed. If you think you may be interested, please give us a telephone number where we can contact you and give you more details about the study.

We do hope you can help us with this study and look forward to hearing from you.

Thank you for all your help.

Yours sincerely

Harbinder Sahota.

Please delete as appropriate.

Name and address -----

I may be interested in being interviewed and would like further details.

My contact phone number is

I do not wish to be interviewed.

Please return this slip in the freepost envelope enclosed (no stamp required).

6036

Appendix 5

My name: Harbinder Sahota

May I start by saying thank you for coming here today. You all helped us by filling in the questionnaires we sent you about your views on health and health services.

Introduce group – ask name and ice breaking questions such as their journey to the venue.

Reason for discussion group

We now want to ask you a bit more about health and health services.

We hope to use the results from these interviews to try to improve health services for everyone.

What will happen during the discussion group

This session will be tape recorded. The main reason for this is that I cannot write everything down and listen to you at the same time and it will help me remember what you all said.

Everything that is said will remain totally confidential. We are interested in your views. There are no right or wrong answers.

Health

Can I start by asking you all, what does health mean to you?

Is health something you spend time thinking about? / What factors influence your health?

Can you do anything to stay healthy?

If you have a problem with your health who would you discuss it with?

Once you have decided it is a medical problem what would you do next?

Do you think people find it easy to talk to their GP (are they able to explain exactly how they are feeling when discussing their health with their GP?)

Are GPs good at listening to what people have to say?

Do people always understand what is being said to them about their health?

Do GPs spend enough time discussing any problems / health with patients?

If people get a pain in the chest some of them go and see their doctors and others don't. Why do you think that is?

Supposing a patient went to the GP and complained about a pain in the chest, what would you expect the GP to do?

What do you think heart disease is?

Why do you think people get heart disease?

If someone has a heart attack, is there anything that can be done to help?

Appendix 6

My name: Harbinder Sahota

May I start by saying thank you for allowing me to come here today. You have already helped us by filling in the questionnaires we sent you about your views on health and health services.

Reason for Interview

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Health

Can I start by asking you what does health mean to you?

Is health something you spend time thinking about? / What factors influence your health?

Can you do anything to stay healthy?

If you have a problem with your health who would you discuss it with?

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Do you think people find it easy to talk to their GP (are they able to explain exactly how they are feeling when discussing their health with their GP?)

Are GPs good at listening to what people have to say?

Do people always understand what is being said to them about their health?

Do GPs spend enough time discussing any problems / health with patients?

If people get a pain in the chest some of them go and see their doctors and others don't. Why do you think that is?

Has there ever been a time when you wanted to be referred to hospital but found the GPs opinion to be different? How did you feel about that?

Supposing a patient went to the GP and complained about a pain in the chest, what would you expect the GP to do?

What do you think heart disease is?

Why do you think people get heart disease?

If someone has a heart attack, is there anything that can be done to help?