1   **Understanding the causes of breast cancer treatment delays at a tertiary hospital in Ghana**

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Abstract

Poor outcome for breast cancer in Ghana have been attributed to late presentation of symptoms at biomedical facilities. This study explored factors accounting for delays in initiation of breast cancer treatment at the Korle-Bu Teaching Hospital in Accra. Focus group discussions were conducted with twenty women with breast cancer. A theory-driven thematic analysis identified three multilevel factors influencing treatment seeking delays: (1) patient (e.g misinterpretation of symptoms, fear); (2) healthcare provider (e.g negative attitudes); and (3) health systems (e.g shortage of medicines). Addressing treatment delays will require multilevel interventions, including culturally congruent education, psychosocial counselling/support, and strengthening health systems.

Background

Research has shown high morbidity and mortality of breast cancer in Ghana (Atobrah, 2013; Wiredu and Armah, 2006). Even though early breast cancer diagnosis and treatment at a pre-symptomatic phase are associated with prolonged survival, the majority of breast cancer patients in Ghana present late (Bish et al., 2005; Richards et al., 1999) with 52-85% presenting with advanced disease (Clegg-Lamptey and Hodasi, 2007; Ohene-Yeboah and Adjei, 2012).

Studies have shown that longer delays to the start of breast cancer treatment are associated with worse survival rates (Richards et al., 1999; Ohene-Yeboah and Adjei, 2012). Total delay has been defined as the time between a patient's discovery of symptoms and start of definitive treatment in a health facility: total delay is a product of patient and provider/treatment delay. Treatment delay can be attributed to both patient factors and health systems factors. Similar to other chronic non-communicable diseases (NCDs), such as diabetes and hypertension, there are many barriers to timely treatment of breast cancer.

Several studies have been conducted on various aspects of breast cancer in Ghana, including patient delay that explores the causes of delay in seeking initial treatment (Atobrah, 2013). But there is presently no study which examines patients' perspectives on treatment delay looking at the causes of delay in start of treatment between first presentation at the hospital for diagnosis with breast cancer and the start of definitive treatment. As part of a large-scale hospital-based study of patients who have started treatment for breast cancer at the Korle Bu Teaching Hospital (KBTH), Accra, this study explores the patients', healthcare providers' and health systems' factors which accounted for delay in start of definitive treatment, using a qualitative approach. In this study, delay was defined as the time interval (and factors responsible for that interval) between presentation to hospital and start of definitive treatment for breast cancer.

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Methods

Data was gathered using Focus Group Discussions (FGDs) to examine the structure, process and outcomes of social communication in order to gain insight into "how knowledge, and more importantly ideas, develop and operate within a given cultural context" (Kitzinger, 1995). Four FGDs were carried out with patients receiving treatment from the general surgical wards and outpatient clinics of the department of surgery, and the breast clinic of the National Center for Radiotherapy and Nuclear Medicine, KBTH.

Participants

Participants were recruited using purposive sampling from the general surgical wards, outpatient clinics, and the breast clinic of the National Center for Radiotherapy and Nuclear Medicine at KBTH. The fieldwork was carried out between August and September, 2013. The first phase of the fieldwork was a survey where 205 consecutive breast cancer patients starting treatment at the study sites were recruited (Dedey et al., 2016). After the end of the survey, we followed up some of the patients by calling them on their mobile phones to request their participation in a focus group discussion to gather more nuances and in-depth information on the causes of delay in start of definitive treatment. We were able to approach thirty-one patients at this stage and eleven of them declined. Once participants had agreed, we set up their interview dates and they were placed in groups based on their clinic days. The FGDs were conducted in English and Twi by trained field assistants. The duration of the group discussions ranged from an hour thirty minutes to two hours thirty minutes and permission was sought from the participants to record all discussions. Ethical approval for the study was obtained from the Ethical and Protocol Review Committee of University of Ghana Medical School.

106 Further, all participants were remunerated for participating in the study. Each participant was

107 given GH20 (US$9.67) as transport allowance. Two pre-defined key areas were explored in this

108 study: 1) general life history; and; 2) patients, healthcare providers' and health systems' causes

109 of delay in start of breast cancer treatment. Questions asked during the FGDs are provided in

110 Supplementary Box 1. The profiles of the breast cancer patients are presented in Table 1 and

111 Supplementary Table 1b.

112 *Data analysis*

113 The data analysis was conducted after all the interviews were transcribed. All interviews were

114 transcribed verbatim from Twi into English language by a team of transcribers with Twi and

115 English language competence. We analysed the data using thematic approach (Attride-Stirling,

116 2001). The analysis was guided by a coding frame with two sections; 1) a section on pre-existing

117 deductive codes derived from previous studies on causes of delay in breast cancer treatment, and;

118 2) an open-ended section of inductive codes derived from the lived experience of the

119 participants.

120 The study by Freitas and Weller (2015) on 'patient delays and systems delays in breast cancer

121 treatment in developed and developing countries' and the review of breast cancer research in

122 Ghana by Atobrah (2013) guided the selection of the deductive codes. Deductive codes derived

123 from the reference studies included financial constraints, non-attribution of symptoms to cancer,

124 fear of: disease, treatment adverse effect and chemotherapy. Deductive codes for healthcare

125 provider and health systems factors were derived from key elements of the WHO health systems

126 building blocks (service delivery, health workforce, information system, medicines, financing

127 and leadership/governance) (Coast et al., 2016) and the application of this framework to cancer

128 care in Africa (Adeloye and Grant, 2016). Using the principle of constant comparison, the

129 emerging themes were compared against each other to describe the depth and coverage of themes

130 across transcripts. We paid critical attention to consensus, conflict and absences across group and

131 individual narratives (de-Graft Aikins, 2005).

132 The second stage of the analytical framework involved drawing linkages between codes,

133 themes, appropriate respondent quotes, existing empirical studies and conceptual ideas from

134 social representations theory (de-Graft Aikins, 2005) and explanatory models of illness

135 (Kleinman, 1980). The concepts of social representation and explanatory models shaped the

136 interpretive analysis because we were interested in the sources of knowledge and how sources

137 influenced practical responses on treatment. At the interpretive stage, we re-categorised some of

138 the themes mentioned by participants, partly informed by convergent and divergent themes from

139 existing studies. For instance, participants reported different dimensions of fear; we highlighted

140 the different levels through which fear operated so that we could identify the extent to which this

141 theme aligned with existing studies that had reported fear as a barrier to start of definitive

142 treatment.

143 **Results**

144 The results focus on causes of delay in breast cancer treatment.

145 **Causes of delay in breast cancer treatment**

146 Causes of delay in breast cancer treatment are presented under three broad categories: (1) patient

147 factors (2) healthcare provider factors, and; (3) health system factors. All the categories were

148 examined from the patients' perspectives.

149 **Patient factors**

150 The participants attributed their causes of delay in start of definitive treatment to four main

151 themes: i) spiritual causal theories of breast cancer; ii) fear; iii) financial constraints, and; iv)

152 seeking alternative treatment.

153 ***Spiritual causal theories of breast cancer***

154 A major cause of delay in start of definitive treatment was spiritual causal theories of breast

155 cancer. Participants attributed the causes of breast cancer to spiritual causes such as witchcraft,

156 breast-feeding in dreams and consequence of one's sin. These theories influenced their decision

157 to seek spiritual help before starting biomedical treatment.

158 *Up until now, I think it is a satanic disease because before it happened, I was at a*
159 *Christian gathering where the Pastor said that if you have a dream and a child is sucking*
160 *your breast it means you are being given breast cancer. At the time, I listened but I did*
161 *not believe it completely. I used to have such dreams a lot **(FGD 4-R1)**.*

162 *I thought I was being bewitched; in my case I had no dream but by all indication I know I*
163 *had been bewitched by family members. Because immediately after my engagement, my*
164 *mother said one of my aunties kept asking if I had become pregnant **(FGD 1-R2)**.*

165 ***Fear***

166 Fear was another dominant cause of delay in start of treatment; this was mentioned and discussed

167 by all the participants. The different targets of fear mentioned by the participants included fear

168 of: mastectomy, breast damage, surgery, perceived trauma from the treatment and Korle Bu

169 Teaching Hospital.

170 *…there was indeed that fear but when I was admitted here, I realized that there was*
171 *nothing to be afraid of. But what really scared me was the surgery; okay, so when you*
172 *had to come to Korle-bu you cried, and when you had to come for surgery too you cried*
173 *again **(FGD 1-R5)**.*
174

175 *I'm always afraid of things….when you are admitted at Korle-bu, it's like you're as good*
176 *as dead; I'm scared of everything about Korle-bu. When I had to come here, I cried a*
177 *lot… **(FGD 1-R2)***

178   *.....the first time I was scared because I don't normally come to Korle-bu. They only deal*
179   *with serious issues so then ... it was serious if you were sent there. So you see that*
180   *anytime I am coming, then my B.P goes up, because I didn't know what to expect next*
181   *(FGD 3-R1).*

182   Fear was also driven by the perceptions of women's significant others. There was a common

183   perception that mastectomy damaged 'female identity' or 'ideal womanhood'. Women were

184   advised against the procedure, as a result. These perceptions intensified the fear women felt

185   about cancer and prevented them from seeking definitive treatment.

186   *...some noted that as a woman, if your breast is removed then it is your sure ticket to*
187   *death…. these are some of the things people say to dissuade others from seeking early*
188   *medical attention….(FGD 1-R3)*

189   *some people told my husband that I should not undergo the surgery… he said that if I*
190   *undergo the surgery I would die in a year's time (FGD 1-R2)*

191   ***Financial Constraints***

192   Many of the patients mentioned lack of finances as a major barrier to start of definitive

193   treatment. This is another major theme which emerged from the narratives of all the participants

194   and this cut across different educational and socio-economic status. Most participants struggled

195   to pay the high cost of chemotherapy, pharmaceutical drugs and other associated costs of breast

196   cancer treatment.

197   *The chemo is expensive. The trauma and money you spend too is a problem. If you do not*
198   *have at least 200 Ghana cedis, you cannot buy the drugs. When someone hears all these,*
199   *the individual would opt for herbal medicine or prayer. So as for me I think that lack of*
200   *money is a factor. I paid 1000 Ghana cedis to use the chemo machine. If you do not have*
201   *money you would go home. So money is a serious factor (FGD 4-R1).*

202

203   ***Alternative treatment***

204   Participants also attributed their delay in start of definitive treatment to seeking alternative

205   treatments such as herbal treatment, faith healing and practice of lifestyle modification treatment

206 after confirmation of diagnosis. Based on the narratives of some of the participants, seeking

207 alternative treatment was not only driven by faith in alternative treatment, but by the high cost of

208 biomedical treatment.

209 *……there was a little sore on my breast and my breast swelled up and we took it to the*
210 *hospital and I was diagnosed with breast cancer. We tried treating it there but the*
211 *amount we were charged was too much and we could not afford and we stopped the*
212 *treatment at the hospital and we started using herbal medicine. The situation worsened*
213 *and the whole breast became sore and we then decided to come to Korle-Bu* **(FGD 2-R3)**

214 Further, the participants' narratives indicate that religious leaders contributed to delay in start of

215 definitive treatment. Some participants were associated with pastors who encouraged them to use

216 faith healing instead of seeking biomedical treatment.

217 *...the pastors contribute to the delay in response time to treatment medically. They tell*
218 *people that they can pray for the disease to melt away. Your faith also tells you that they*
219 *can do it so after the prayers, you sit back knowing and believing that you are healed, but*
220 *that might not exactly be the news* **(FGD 1-R4).**
221
222 *...I did not tell anyone, except my husband and the people I pray with. I always say my*
223 *faith is that God can cure me…. this is what is happening so pray with me… There is this*
224 *pastor friend who said Ok, some went through chemo and also, other people used herbal*
225 *medicine and are fine, he also said he knew others too that used bio-med and are also*
226 *fine, therefore if it is my faith that prayer can heal me I can go ahead and pray* **(FGD 2-**
227 **R2).**

228 Participants also sought alternative treatment because they believed in it and because the health

229 workers advised them to do so. The narratives of the participants suggested that aggressive

230 campaigning by the herbal industry was driving engagement with alternative herbal treatments

231 *...some prefer herbal medicine because there is a lot of noise being made about these*
232 *herbal centres* **(FGD 1-R1).**
233
234 *…there are nurses who even tell you that they know a herbalist who can put some cream*
235 *there and it will melt. They ask you whether you want your breast to be lacerated* **(FGD**
236 **3-R3).**

237 **Health care provider factors**

238 Participants mentioned that healthcare providers also contributed to the delay in start of

239 definitive treatment. The healthcare provider factors which accounted for delay in start of

240 definitive treatment included: i) the healthcare workers' attitude; ii) corruption among the

241 healthcare workers, and; iii) wrong/harmful advice from healthcare workers. The dominant

242 healthcare provider factor mentioned and discussed by the majority of the participants was poor

243 attitude of the health workers. Patients stated that some of the healthcare workers were rude to

244 them or refused to answer their questions and did not treat them well and this forced them to

245 delay start of treatment or stopped treatment for some time. In addition, participants mentioned

246 that some of the health workers are corrupt because they give preferential treatment to patients

247 that they know.

248 *The record staff are not too nice. There is one particular lady who calls the name and*
249 *expects you to hurry from wherever you are to come for your own card. You see some of*
250 *us are very sick and others very old so it will take time but when a little time elapse after*
251 *she has called your name and you get there, she shouts on you and all that and is not*
252 *nice. So for the medical staff there is no problem with them but for the record staff they*
253 *are not nice. You would even like to ask them a question but they will not be bothered*
254 *(**FGD 3-R3**).*

255 *...I would say that for the lab, they keep to their time and date. When you go, the results*
256 *would be ready but you would have to wait a while. The problem with the lab attendants*
257 *who are to bring the reports out would be sitting behind their computers and be chatting.*
258 *We the patients would have to queue up. When names are mentioned, the attendants do*
259 *not speak audibly. When you ask a question, they would shout at you and ask you if you*
260 *did not hear them as they were calling out the name. At certain times, waiting to receive*
261 *the lab report is a matter of who you know. Someone who has not joined the queue would*
262 *just walk in and be served immediately because the person knows someone who works in*
263 *the lab. If you don't know anybody working in the lab you would have to queue (**FGD 4-***
264 ***R2**).*

265 Further, participants said that health care workers give wrong/harmful advice to patients by

266 encouraging them to seek alternative treatment, and this eventually causes delay in start of

267 definitive treatment.

268   *…there are nurses who even tell you that they know an herbalist who can put some*
269   *cream there and it will melt. They ask you whether you want your breast to be lacerated*
270   *(FGD 3-R3).*

271   **Health Systems factors**

272   The health systems factors that led to delay in treatment, as narrated by the participants, include:

273   i) long queues during treatment; ii) unavailability of doctors; iii) breakdown of hospital

274   machines; iv) shortage of medicines; v) workload of doctors; vi) shortage of health care workers;

275   vii) slow moving queues at the drug dispensary, and; viii) long distance between departments

276   involved in breast cancer treatment within the hospital premises. Some of the participants

277   mentioned that the structure of breast cancer treatment at KBTH contributed to the delay.

278   Treatment facilities were located at different places within the hospital premises and this made it

279   strenuous for patients to access these facilities. The dominant theme for the health system's

280   delay, mentioned and discussed by many of the participants was delay of biopsy results from the

281   Pathology department.

282   *I think I agree with them, doing lab here and there makes the whole process very tiring so*
283   *if we get everything here, we will be happy. Because sometimes, after the whole thing,*
284   *you seem to be overused and stressed and I always feel dizzy. If cancer patient would*
285   *have a sort of special treatment (FGD 3-R1).*

286   *yes. After my first surgery the red house (Pathology Unit) delayed my lab results too*
287   *much. It made me restless and worried because I didn't know whether I was making*
288   *progress or not; Whenever you go to the lab, it will takes months before you get the*
289   *results. So if it is because the machines are not much or it's because the equipment is*
290   *inadequate, I can't tell. The difference between this one and the one from South Africa is*
291   *that, the one from South Africa comes early whiles this one does not (FGD 3-R1).*
292
293

294   **Recommendations on how to reduce delay in start of treatment**

295   The recommendations on how to reduce delay in start of treatment at KBTH are based on the

296   narratives of the participants. The participants were asked to suggest ways to reduce delay in

297   start of breast cancer treatment. The narratives of the participants were thematised based on the

298   WHO health systems building blocks and these focused on: 1) health service delivery; 2) health

299   workforce, and; 3) financing. We present these themes in Table 2, highlighting the spread of

300   views across groups.

301   <INSERT HERE>

302   **DISCUSSION**

303   This discussion focuses on the three factors driving delay in start of breast cancer treatment:

304   patients, health professionals and health systems.

305   *Patient factors*

306   The dominant patient factor for causes of delay in start of breast cancer treatment among the

307   participants was fear. Fear has also been identified in several studies as one of the most dominant

308   causes of delay in start of breast cancer treatment in high income countries and LMICs (Freitas

309   and Weller, 2015; Crowley et al., 2014; Innos et al., 2013). Fear operated at multiple levels of

310   analysis: the level of self (changed body), at the level of intimate and socially significant

311   relationships (changed identity as a woman), at the level of macro-structure (fear of Korle-Bu

312   Teaching Hospital), and at the level of the supernatural (fear of the spiritual causes of cancer).

313   There is a need to identify the multi-faceted (subjective, material and symbolic) targets of

314   women's fear in order to develop appropriate psychosocial counselling and support.

315   Another major cause of participants' delay in start of treatment was financial constraints.

316   Financial constraints as a cause of patient delay have also been cited in other studies (Atobrah,

317   2013; Dedey et al., 2016; Barros et al., 2013; Ermiah et al., 2012; Quaife et al., 2014; Sharma et

318   al., 2013). High cost of biomedical treatment forced some of the participants to seek alternative

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319 sources of healing which resulted in delay in start of treatment. The economic downturn in

320 Ghana, coupled with high cost of living, make it difficult for most families to meet their day to

321 day needs; chronic illnesses such as breast cancer often introduce catastrophic healthcare

322 expenditures within this context (de-Graft Aikins et al., 2014; Tagoe, 2012). Participants

323 struggled to pay their cancer care costs. Those who had health insurance, still had to pay out-of-

324 pocket at the point of healthcare delivery because many of the breast cancer treatments were not

325 covered by the National Health Insurance Scheme (NHIS). Experts observe that NCDs send

326 patients and their families down a poverty spiral, particularly in LMICs where 60% of healthcare

327 is financed out-of-pocket, compared to 20% out-of-pocket expenses in high income countries

328 (Quaife et al., 2014; Richards et al., 1999; Coast et al., 2016). Local experts have advocated the

329 need for a non-communicable disease (NCD)-competent NHIS – a restructured system with an

330 expanded remit to cover the comprehensive treatment needs of a growing number of Ghanaians

331 living with cancers and other chronic conditions (de-Graft Aikins and Koram, 2017). This will

332 reduce the financial burden of care on individuals and families, as well as the associated

333 psychosocial burdens.

334 Some of the participants in this study thought that breast cancer has spiritual causes. As a result,

335 some of them sought alternative treatment which ended up delaying the time they started

336 definitive treatment at KBTH. Some studies have also reported seeking of alternative treatment

337 as a cause of delay in start of treatment (Freitas and Weller, 2015).Other reasons given by

338 participants for delay in start of treatment were spousal and family restrictions. Socio-cultural

339 systems, as well as theories of disease and illness, especially in African settings, have been

340 known to influence decision for seeking medical treatment especially in females (BeLue et al.,

341 2009). It has been reported that major decisions on women's health and wellbeing are usually

342 taken by the husband or family member who determines if it is appropriate to seek medical help

343 based on their own beliefs, knowledge of the disease and financial status (Ohasi et al., 2014).

344 The narratives of the participants in this study suggest that some of the women delayed start of

345 definitive treatment due to the advice given by their significant others (e.g husbands, sisters, and

346 other valued family members).

347 *Health care providers' and health systems' factors*

348 The healthcare provider and health systems delay were examined through the WHO health

349 systems building blocks framework. With regard to service delivery, this study showed that

350 many of the patients did not have access to quality treatment due to the poor attitudes and corrupt

351 practices of the healthcare workers. Associations have been made between Ghana's weak health

352 system and recurring trends in corrupt health worker practices (de-Graft Aikins and Koram,

353 2017). Corrupt practices entrenched inequitable access to breast cancer treatment at KBTH.

354 Some of the participants were able to utilize the healthcare service faster than others because

355 they attracted the favour of the healthcare workers either through bribery or leveraging their

356 personal relationships with the healthcare workers. Other factors that hindered quality health

357 service delivery included location of treatment facilities at different places within the hospital

358 premises and long queues during treatment.

359 With respect to the health workforce, the participants mentioned shortage of healthcare workers

360 as an impediment to receiving quality treatment. The numbers of breast cancer specialists at

361 KBTH are too few to handle the influx of breast cancer patients and this contributed to delay in

362 start of treatment. An effective way of addressing this may be using a task-shifting approach to

363 train physicians in breast cancer care so as to increase the number of health professionals that can

364 deliver this care (Adeloye and Grant, 2016).

365 With respect to medical products and technology, the participants mentioned delay in biopsy

366 results from Pathology Unit as a dominant cause of health systems delay in start of treatment.

367 This factor had been reported to be a major determinant of delay in start of definitive treatment at

368 KBTH (Dedey et al., 2016). In addition, intermittent breakdown of machines at the hospital due

369 to power fluctuations and occasional delays in dispensing chemotherapy drugs are issues that are

370 of concern to the country as a whole. With improvement in electricity supply to KBTH,

371 subsidization of cost of chemotherapy drugs and tax exemption on drugs, the above problems

372 may be minimised (Vanderpuye and Yarney, 2014).

373 With respect to recommendations on how to reduce delay in breast cancer treatment, the

374 suggestions of the participants focused broadly on health service delivery, health workforce, and

375 financing. The other components of the health system – information and leadership/governance –

376 emerged as implicit concerns. For example, the lack of cancer education was implicated in low

377 levels of awareness and understanding of breast cancer systems. This may be a product of poor

378 investment in health information systems. The chronic problem with the operation of the

379 Pathology Unit may also be a product of poor leadership and governance at the hospital.

380 The main limitation of this study was that the number of participants included in the FGDs was

381 very limited. We could not gain access to many of the participants that were interviewed during

382 the survey phase. Even though we were able to approach thirty-one participants in total, we

383 could not obtain permission from some of them. Despite this limitation, meaning saturation was

384 reached on the majority of the discussion themes. As a result, the nuanced patients', health care

385 providers' and health systems' factors generated on patients' perspectives on causes of delay in

386 start breast cancer treatment can inform larger-scale qualitative and quantitative studies in similar

387 contexts.

Conclusion

This study showed that there were different causes and modalities of delay in start of definitive treatment for breast cancer and this included patients', healthcare workers' and health systems' factors.   Reducing delays in breast cancer treatment at KBTH will require multi-level interventions which target these tripartite factors. Such interventions should include: public education (and education of health workers) on causes and symptoms of breast cancer, including messages that deconstruct harmful cultural beliefs; psychosocial counselling before and during definitive treatment, and; health systems strengthening in the areas of health service delivery (localisation of breast cancer treatment units at KBTH), health workforce (improving health professionals' attitudes, ethical conduct, welfare and diagnostic and treatment timelines) and financing (advocating for an NCD-competent NHIS).

Declaration of conflicting interests

The authors declare that they have no competing interests.

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505   Table 1. Socio-demographic details of respondents

Characteristics	FGD 1 (n=5)	FGD 2 (n=5)	FGD 3 (n=4)	FGD 4 (n=6)	Total (N=20)
Age					
< 40	0	1	0	1	2
40-49	4	2	1	1	8
50-59	1	1	2	2	6
60+	0	1	1	2	4
Level of education					
No education	0	1	0	1	2
Primary	2	0	0	0	2
Middle/JHS	2	2	0	0	4
Secondary/JHS	1	1	1	1	4
Tertiary	0	1	3	0	4
Missing	0	0	0	4	4
Marital status					
Currently Married	5	4	2	5	16
Widowed	0	0	2	0	2
Separated	0	1	0	1	2
Religion					
Christianity	5	5	4	0	14
None	0	0	0	1	1
Number of children					
0	0	1	0	2	3
1-2	1	1	3	1	6
3-4	2	2	1	0	5
5+	1	1	0	1	3
Missing	1	0	0	0	1
Occupation					
Unemployed	0	1	1	0	2
Trader	5	2	0	3	11
Others	0	2	3	2	7
Ethnicity					
Akan	2	1	3	3	9
Ewe	3	0	0	2	5
Ga	0	3	0	1	4
Others	0	1	1	0	2
Median time (in weeks) from presentation to start of treatment					
< 4	0	1	1	2	4
4-12	4	1	2	2	9
12+	1	2	1	2	6

Missing	0	1	0	0	1
Disease Stage					
I & II	5	5	3	0	13
III & IV	0	0	1	6	7

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Box 1 Sample of FGDs questions

1. Please can you tell us a little bit about yourself?
2. In your opinion, what are some of the factors that make patients who are diagnosed with breast cancer delay in receiving treatment?
   (***Probes:*** *socioeconomic status; use of Complementary and Alternative Medicine; patient perception; fear of doctors; fear of coming to Korle Bu; travel time/distance to Korle Bu*)
3. How do health providers contribute to the delay in the onset of breast cancer treatment?
   (***Probes:*** *workload; number of patients and documentation; attitude of staff; expertise; logistics*)
4. How does the healthcare system in Korle Bu contribute to the delay in breast cancer treatment?
   (***Probes:*** *availability of adequate numbers of healthcare workers; availability of facilities and drugs; time for laboratory investigations and waiting lists*)
5. In your opinion, how can we reduce the waiting time between breast cancer diagnosis and start of definitive treatment at the Korle Bu Teaching Hospital?

Table 1b. Detailed profiles of respondents

FGD 1									
R	Age	Number of children	Employment status	Marital Status	Religion	Education	Ethnicity	Time (in weeks) from presentation to treatment	Disease stage
1	41	-	Trader	Married	Christian	Primary	Ewe	5	2
2	45	5	Trader	Married	Christian	Primary	Akan	29	1
3	56	4	Trader	Married	Christian	JHS	Ewe	7	2
4	49	3	Trader	Married	Christian	SHS	Akan	5	2
5	48	2	Trader	Married	Christian	JHS	Ewe	6	1
FGD 2									
R	Age	Number of children	Employment status	Marital Status	Religion	Education	Ethnicity	Time (in weeks) from presentation to treatment	Disease stage
1	33	2	Hairdresser	Married	Christian	JHS	Ga	13	2
2	48	0	Journalist	Married	Christian	Tertiary	Bimoba	6	1
3	64	4	Retired	Married	Christian	SHS	Akan	-	2
4	45	3	Trader	Married	Christian	JHS	Ga	3	2
5	52	5	Trader	Separated	Christian	None	Ga	13	2
FGD 3									
R	Age	Number of children	Employment status	Marital Status	Religion	Education	Ethnicity	Time (in weeks) from presentation to treatment	Disease stage
1	55	2	Accra Metropolitan Assembly staff	widowed	Christian	SHS	Fante	5	3
2	51	2	Nurse	married	Christian	Tertiary	Kudaasi	6	2
3	40	2	Working at National	married	Christian	Tertiary	Akan	50	2

R	Age	Number of children	Employment status	Marital Status	Religion	Education	Ethnicity	Time (in weeks) from presentation to treatment	Disease stage
			theatre						
4	71	3	not working	Widowed	Christian	Tertiary	Akan	2	2
FGD 4									
R	Age	Number of children	Employment status	Marital Status	Religion	Education	Ethnicity	Time (in weeks) from presentation to treatment	Disease stage
1	62	9	Sells cassava	Separated	none	none	Ga	52	4
2	51	4	Teacher	Married	Christian	SHS	Akan	5	4
3	39	2	Trader	Married	Christian	-	Ga	3	4
4	48	0	Trader	Married	Christian	-	Ewe	6	4
5	64	0	Seamstress	Married	Christian	-	Akan	3	4
6	50	5	Farmer	Married	Christian	-	Akan	41	4

Table 2 Recommendations on how to reduce delay in start of breast cancer treatment

	Recommendations	Spread of views
1	*Health service delivery* (1) Spreading breast cancer patients across different days of the week for maximum attention to be given to each patient. (2) Concentration of breast cancer treatment at KBTH in one building so as to streamline the processes involved in diagnosis and relieve the frustrations patients go through in the hospital. (3) Public education on causes and symptoms of breast cancer so as to facilitate early presentation and treatment.	Some members (FGDs 1, 2 and 3)
2	*Health workforce* (1) Appropriate follow-up of patients by health professionals to monitor their welfare. (2) Appropriate intervention (such as increasing the number of health workers) at the Pathology Unit to reduce delay in getting biopsy results. (3) Explanation of breast cancer treatment procedures to patients for them to make informed decision on the most appropriate treatment. (4) Motivation of health workers through commission so as to reduce corruption and encourage them to provide quality health service to patients.	Some members (All groups)
3	*Financing* (1) Assistance from government through subsidy on cost of treatment	FGDs 1 and 4