Psychotherapeutic and vocational interventions among young adults with work disability due to mental disorders in Finland

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Abstract

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Backround: Little is known about treatment and rehabilitation received and planned among young adults with work disability due to a mental disorder.

Aims: To examine the implemented psychotherapeutic and vocational interventions and treatment plans among young adults with work disability due to a mental disorder.

Material and methods: Data were collected from medical records of young Finnish adults aged 18–34 with a long-term work disability history due to a mental disorder (N=1163). The participant characteristics associated with four types of interventions were analysed using log-binomial regression analysis.

Results: In total, 34% had participated in a psychotherapeutic intervention. Of the non-students, 26% had participated in vocational intervention. For 46% of the non-students, neither type of intervention was planned. Both implemented and planned psychotherapeutic interventions were associated with female sex, high education, attachment to employment, and absence of substance abuse. Low education and childhood adversity were associated with implemented vocational interventions and absence of substance abuse with planned vocational interventions.

Conclusion and significance: There is an unmet need for psychotherapeutic interventions among men, among those with lower socio-economic status, and among those with poor attachment to labour market. In addition, there is a lack of vocational interventions for those with high education. People with substance abuse are largely excluded from both types of interventions.

Key words: occupational, pension, rehabilitation, psychotherapy, treatment

Introduction

Mental disorders are common among young adults and comprise the majority of causes for work disability pensions in this age group [1,2,3,4]. Disability at an early age due to mental disorders places a considerable burden on health systems and incurs high costs for society [1,5]. In Finland in 2014, 76% of new work disability pensions granted to young adults (18–34 years) were due to mental disorders, of which the most common diagnoses were mood disorders (39%), schizophrenia, schizotypal and delusional disorders (24%), and mental retardation (12%) [6]. The majority of the work disability pensions for young people are granted as fixed-term pension with the expectation of return to work or education after rehabilitation.

Previous research suggests a possible unmet need for treatment among young adults with mental disorders [1,5,7]. Also, although the onset of most mental disorders usually occurs during the first three decades of life, there is typically a delay in effective treatment [8]. A Finnish study showed that 77% of young adults with a current disorder who felt in need of treatment for mental health problems had contemporary treatment contact [9], and later study showed that of young adults with depressive disorders, 40.9% received minimally adequate treatment [7]. Psychotherapeutic interventions are recommended in the treatment of mild to moderate depression, bipolar disorder and also – as regards cognitive behavioural psychotherapy (CBT) – in the treatment of psychotic disorders and schizophrenia [10]. The attachment to employment before work disability pension due to mental disorders among young adults has been found to be low [11] and vocational interventions are needed to enhance integration to employment [12]. However, little is known about the treatment history

of young adults with work disability due to mental disorders, or the interventions that are planned to facilitate their return to work or education. To address this limitation, we investigated the prevalence of psychotherapeutic and vocational interventions implemented and planned for young Finnish adults on work disability pension due to mental disorders and examined subgroups at the highest risk of being excluded from the interventions.

Material and Methods

The study is a part of the Young Minds at Work Study [11, 13] which aims at determining factors associated with work disability due to mental disorders and return to the labour market or education among young adults in Finland. The data comprised all people aged 18–34 who received fixed-term work disability pension due to a mental disorder from occupational pension institutes in 2008 in Finland (N=1163). To receive a pension from such an institute, a person has to have worked at least one day in paid employment before receiving the pension. The data included people with ICD-codes [14] F10-F59, F60-F69 and F80-F99 as their primary cause of work disability, which means that we included all the cases of disability pension due to mental disorders, excluding the cases with F00-F09 (organic mental disorders) and F70-F79 (mental retardation) diagnoses.

Work disability pension can be granted to people who have first been on sickness benefit for at least 300 days. As these pensions are granted as fixed-term (usually for a year) young adults in this study are expected to return to employment or education. The data were derived from the institutes granting pensions (20 institutes), on the basis of personal identification numbers. Three researchers collected the data, which included medical records for the pension (applications and physicians' certificates with their attachments), from the pension institutes between September 2012 and June 2013. This study was based on

register data, thus the participants were not contacted and informed consent was not obtained. The study was approved by the Ethics Committee of Helsinki and Uusimaa Hospital District, Ministry of Social Affairs and Health of Finland, participating pension institutes and register keepers.

Measures

All of the following data were collected from participants' medical records and work disability pension applications. The researchers coded 40 cases as duplicates in order to assess inter-rater reliability. The mean agreement for variables used in the study between the two researchers was 92%. The variables were:

(1) Clinical factors: *Primary diagnosis* according to the ICD-10 classification, which was further categorized as psychotic (F20-F29), depressive (F32-F34), bipolar (F30-F31), or other mental disorders (F10-F19 and F40-99). The most common diagnoses in the 'other mental disorder' group were neurotic, stress-related and somatoform disorders (F40-48, N=76/137). *Psychiatric comorbidity* (yes/no), *somatic comorbidity* (yes/no*), harmful alcohol use* (yes/no), *drug use* (yes/no), psychiatric hospital admission (at least one vs none), symptoms at school age (recorded in medical records as a contributing factor to the current reason for work disability), and *childhood adversity* (at least one of the following: parental divorce, learning difficulties, bullying at school, death or suicide of parent, parental harmful alcohol use or drug use, neglect or sexual abuse, own severe illness, own harmful alcohol use or drug use during adolescence, or something else recorded as adverse).

Attachment to employment or education: Using the person's identification number, the data were linked to employment records from the Finnish Centre for Pensions (number of days of employment during the three years preceding the work disability pension). Those with 730 or more days (two years) of employment during the three years preceding the work disability

pension were considered attached to employment. The information regarding whether or not the person was enrolled in education (yes/no) was obtained from the work disability pension application.

(2) Implemented and planned psychotherapeutic and vocational interventions:

a) Implemented psychotherapeutic intervention (yes/no), defined as a discussion-oriented intervention carried out by a trained psychotherapist with regular appointments and participated in before the participant applied for work disability pension.

b) Planned psychotherapeutic intervention (yes/no), a discussion-oriented intervention with regular appointments to be carried out by a trained psychotherapist according to the medical treatment plan.

c) Implemented vocational intervention (yes/no) before the participant applied for work disability pension. This included the following interventions: assessment of work capacity and evaluations of rehabilitation needs, rehabilitative courses and training (e.g. vocational rehabilitation and courses to support employment), on job rehabilitation (e.g. work trials), and social rehabilitation (e.g. rehabilitative work).

d) Planned vocational intervention (yes/no) according to the treatment plan in the work disability pension application. The criteria for inclusion was as above.

(3) Socio-demographic factors: *Sex, age* (classified as 18–24, 25–29, 30–34*), basic education* (comprehensive school, high school), *vocational education* (no vocational education, vocational course or apprenticeship, vocational school, university of applied sciences, university level (Master's degree).

Statistical analyses

We first calculated the numbers and percentages of people who had 1) participated in a psychotherapeutic intervention, 2) participated in a vocational intervention, 3) a plan for psychotherapeutic intervention, and 4) a plan for vocational intervention. Second, we analysed the characteristics associated with the four types of interventions using log-binomial [15] regression analysis, by calculating univariate and multivariate prevalence ratios (PRs) and their 95% confidence intervals (CIs) for the analysed factors. In the analysis on received vocational interventions, students (n=229, 19.7%) and those whose current employment or education status was unclear (n=13, 1%) were excluded from the analysis, as they are not the target group of vocational interventions. This left 921 people in this sub-sample.

We then adjusted the models for age, gender, primary diagnosis category (psychotic, bipolar, depressive, or other mental disorder) and hospital admission (as a proxy measure for severity of illness). The statistical procedures were performed with IBM SPSS statistics 20 software [16].

Results

Among the 1163 participants (44% men, 56 % women, with a mean age of 28.5, SD 4.3 years), the most common diagnostic group was depressive disorders at 39%, followed by psychotic (34%), bipolar (14%) and other (12%) mental disorders. Appendix table 1 presents the socio-economic and clinical characteristics by primary diagnosis.

Implemented interventions

Of the 1163 participants 392 (33.7%) had participated in a psychotherapeutic intervention. The unadjusted log-binomial regression models (Table 1) indicated that women had participated in psychotherapeutic interventions more often than men (PR 2.09, 95% CI 1.73-

2.53), as had those with higher comprehensive (PR 1.81, 95% CI 1.54-2.14, high school vs. comprehensive school) and vocational education (PR=1.81, 95% CI 1.42-2.30, no vocational education vs. university degree). Those who had been attached to employment or education (PR=1.56, 95% CI 1.31-1.83) before work disability pension had participated in interventions more often than those not attached. The prevalence of implemented psychotherapeutic interventions was higher in the depressive (PR=2.40, 95% CI 1.90-3.03), bipolar (PR=2.00, 95% Cl 1.50-2.67), and other mental disorders (PR=2.28, 95% CI 1.71-3.04) diagnostic groups than in the psychotic disorders group. Interventions were more common among those whose psychiatric symptoms were reported to be present already at school-age (PR= 1.49, 95% CI 1.27-1.76). In contrast, psychotherapeutic interventions were rarer among those with harmful alcohol use (PR=0.60, 95% CI 0.48-0.75), or drug use (PR=0.46, 95% CI 0.33-0.64). All these associations remained significant after adjustment for sex, age, diagnosis group, and psychiatric hospital admission (Table 1).

Insert Table 1 here

Of the 921 participants who were not students, 235 (25.5%) had participated in at least one vocational intervention before work disability pension. Details of the vocational interventions are presented in Appendix table 2. They comprised (1) assessments of work capacity and evaluations of rehabilitation needs (e.g. work capacity assessment) in 5.3%; (2) rehabilitative courses and training (e.g. courses to support employment and vocational rehabilitation) in 9.0%; (3) on-the-job rehabilitation (e.g. work trials and working with partial sickness absence compensation) in 10.2%, and (4) social rehabilitation (e.g. rehabilitative work and club house activities) in 5.2% of the interventions. The unadjusted binomial logistic regression models (Table 2) indicated that those who had participated more often in vocational interventions belonged to the oldest age group of 30–34 years (PR=1.57, 95% CI 1.10-2.25) rather than the two younger age groups, had lower basic education (PR=0.75, 95%

CI 0.58-0.96) and lower vocational education than university degree level (PR=0.24, 95% CI 0.18- 0.74 for university degree), had a history of childhood adversity (PR=1.48, 95% CI 1.17-1.82) and were not attached to employment before work disability pension application (PR=0.64, 95% CI 0.50-0.83 for those attached). In the adjusted models (Table 2), all the associations remained significant, and in addition, psychiatric symptoms at school-age were associated with having participated in a vocational intervention (PR=1.28, 95% CI 1.02-1.60).

Of the non-students, 74 (8.0%) had participated in both psychotherapeutic and vocational intervention, and 470 (51.0%) had not participated in either.

Insert Table 2 here

Planned interventions

Psychotherapeutic interventions were planned for 360 (30.9%) of the participants. Of these, 268 (74.4%) had already participated in a psychotherapeutic intervention before applying for a work disability pension and 92 (25.6%) would be first-timers. The number of those who had neither implemented nor planned psychotherapeutic intervention in their medical records was 679 (58.4%).

The unadjusted log-binomial regression models (Table 3) indicated that psychotherapeutic interventions were more often planned for women (PR=1.72, 95% CI 1.42-2.07) and for those with higher comprehensive and vocational education. The highest prevalence was among those with a university degree (PR= 1.62, 95%, CI 1.21-2.18 compared to those with no vocational education). The prevalence of planned psychotherapeutic interventions was higher in the depressive (PR=3.39, 95% CI 2.58-4.45), bipolar (PR=2.35, 95% CI 1.67-3.31) and other mental disorders (PR=3.09, 95% CI 2.23-4.28) than in the psychotic disorders group. Planned psychotherapeutic intervention was more

rare among those with harmful alcohol use (PR=0.46, 95% Cl= 0.36-0.60) or drug use (PR=0.31, 95% CI 0.20-0.48). Attachment to employment or education was associated with planned therapy (PR=1.47, 95% CI 1.23-1.75). In the fully-adjusted model, all these associations remained statistically significant. The presence of comorbid somatic disorder reached significance; planned psychotherapeutic intervention was more common among those without comorbid somatic disorder (PR= 0.59, 95% CI 0.41-0.86).

Insert Table 3 here

Vocational interventions were planned for 373 (32.1%) individuals. The number of non-students who had neither implemented nor planned vocational rehabilitation in their medical records was 485 (52.7%). Of the subtypes of vocational interventions, assessment and evaluation were planned for 5.8%, rehabilitative courses and training for 12.8%, on the job rehabilitation for 9.7%, and social rehabilitation for 4.7% of the participants. The most often planned single intervention types were work trials (82 cases) and courses to support employment or vocational rehabilitation (73 cases). Of the non-students, for whom interventions were planned, 110 (35.4%) had participated in a vocational intervention already before work disability pension, and 201 (64.6%) would be new cases. In the fully-adjusted models, harmful alcohol use (PR=0.80, 95% Cl= 0.65-0.98) and drug use (PR=0.79, 95% CI 0.60-0.99) were related to a lower likelihood of recorded plans of vocational interventions (Table 4).

Insert table 4 here

Both psychotherapeutic and vocational interventions were planned for 110 (9,5%) of the young adults. For 540 (46.4%), neither type of intervention was planned.

Discussion

We examined the implemented and planned psychotherapeutic and vocational interventions among young adults with work disability due to mental disorders in Finland. The results showed that only one third of the participants had participated in psychotherapeutic interventions before they were granted work disability pension and for a similar proportion such interventions were planned. Of non-students, one in four had participated in vocational interventions, and such interventions were planned for less than one third of the participants. Earlier studies have reported findings about unmet need of treatment among young adults with mental disorders (1,5,7). Our results also show unmet need of rehabilitation. More than half of the non-students had participated in neither psychotherapeutic nor vocational interventions. Furthermore, for almost the half of the non-students, neither intervention was planned.

Female sex, high education, attachment to employment, and absence of substance abuse were associated with higher odds for implemented and planned psychotherapeutic interventions. In contrast, low education and childhood adversity were associated with increased odds for implemented vocational interventions. Substance abuse was associated with lower likelihood of planned interventions.

Current practice guidelines recommend psychotherapeutic interventions in the treatment of mild to moderate depression, bipolar disorder and also – as regards cognitive behavioural psychotherapy (CBT) – in the treatment of psychotic disorders and schizophrenia [10]. Several types of vocational interventions have also been developed to prepare young adults with mental disorders for competitive employment, and earlier research has recommended integrating vocational interventions into clinical treatment to facilitate return to work [12,17,18,19]. The participation rates in both implemented and planned interventions

seem low, considering that the young adults in the studied group were granted a fixed-term work disability pension that aimed at return to work or education after rehabilitation. All participants had been on a sickness benefit compensation of 300 days before the period of work disability pension, during which various measures for restoring work capacity could have been taken. One explanation may be, that for some, rehabilitative intervention might not have been relevant due to the severity and acute state (e.g. hospital treatment due to psychotic disorder or severe depression) of the illnesses in question.

Both implemented and planned psychotherapeutic interventions were more common among participants with higher socio-economic status, especially those with a university degree. This may be due to better resources for psychotherapeutic interventions in university student health care, raising questions of whether the availability of psychotherapeutic treatment is better for people considered a potential investment or thought to have the resources to commit to therapy processes and benefit from the treatment. For example, eligibility to certain rehabilitation therapies funded by Social Insurance Institution of Finland is limited to people who, with suitable treatment, are expected to be able to return to work or continue their studies. This may also partially explain the finding that psychotherapeutic treatment was more common among those who were attached to employment or education before applying for work disability pension. Psychotherapeutic interventions were more common among women than men. On the basis of the current data, it is not possible to determine whether this is because of women's willingness to participate in discussion-oriented interventions, or whether psychotherapeutic interventions are more seldom offered to men. Psychotherapeutic interventions were also less common among participants with psychotic disorders, which is in line with current treatment guidelines [10].

More than half of participants had neither implemented nor planned vocational interventions. Considering that the aim of the fixed-term work disability pension is that the

person is able to return to work after the pension period, it seems obvious that vocational interventions should be planned and offered more often to those in risk of work disability. Also, the integration of vocational services may be beneficial for psychiatric treatment results [17]. A major problem may be related to poor integration between interventions and clinical care. For clinicians working in, for example, psychiatric clinics, it may be burdensome to find out if there are vocational interventions organized nearby that would benefit their patient; and after the intervention period to find out if its aims were reached. Furthermore, as attachment to employment before work disability pension is low among young adults with work disability due to mental disorders [11], on-the-job rehabilitation may be difficult to organise, since e.g. work trials in patient's own work place are not possible. It is also possible that there is a consensus on the idea that a disorder must be in remission before interventions are useful. However, the probability of return to work decreases as the time lag increases [20, 21, 22]. Clinical experience is needed to evaluate the appropriate timing for rehabilitative actions in addition to treatment. Older participants, those with lower basic and vocational education, those with adverse childhood factors, and those not attached to employment had more often taken part in vocational interventions before applying for work disability pension. Implemented vocational interventions seem to be connected to low socio-economic status and childhood difficulties. Plans for vocational interventions were more seldom made for those with substance abuse problems, possibly due to a high drop-out prognosis. Vocational interventions were markedly sparse among those with a university degree. There seems to be a lack of applicable vocational interventions for those with higher education. Suitable jobs for on-the-job –rehabilitation may be hard to find. Furthermore, education that takes several years to complete may postpone the need of vocational interventions.

Strengths and limitations

The strengths of our study are the extensive data, which included 98% of all the new fixed-term work disability pension cases due to mental disorders from work pension companies. Inter-rater reliability was also good. However, the data were based on work disability applications and medical records, the quality of which has been found to vary [23.] For clinical characteristics and life history, we cannot be positive that an incident has not happened merely because it is not mentioned in the records. Also, it is not known how many had been offered the treatment and had refused. Nevertheless, we did obtain very detailed information about clinical characteristics and life history.

Conclusions

This study showed that the proportion of young adults with work disability due to mental disorders who have participated in psychotherapeutic and vocational interventions and those for whom these interventions are planned was disappointingly low in Finland. Of the participants, more than half had neither implemented nor planned psychotherapy, and more than half of the non-students had neither implemented nor planned vocational rehabilitation in their medical records. Our findings suggest there is a particularly high unmet need for psychotherapeutic interventions among men, those with lower socio-economic status, those with poor attachment to the labour market, and those with substance abuse disorders. In addition, there seems to be a lack of vocational interventions for those with a high education.

Funding

The study was supported by the Social Insurance Institution of Finland (Kela).

Disclosure of interest

The authors report no conflicts of interest.

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Legends of tables and figures:

Table 1. Associations of socio-demographic and clinical characteristics with implemented psychotherapeutic intervention

Table 2. Associations of socio-demographic and clinical characteristics with implemented vocational intervention

Table 3. Associations of socio-demographic and clinical characteristics with planned psychotherapeutic intervention

Table 4. Associations of socio-demographic and clinical characteristics with planned vocational intervention

Table 1. Associations of socio-demographic and clinical characteristics with implemented psychotherapeutic intervention

	Implemented psychotherapeutic intervention N=1163					
Characteristics	**n of cases/N**	**%**	**PR***	**(95% CI)**	**PR†**	**(95% CI)‡**
All	392/1163	33,7				
Sex: Men	108/515	21.0	1		1	
Women	284/648	43.8	2.09	(1.73-2.53)	1.80	(1.49-2.18)
Age (years) 18-24	86/252	34.1	1		1	
25-29	127/366	34.7	1.02	(0.82-1.27)	1.02	(0.83-1.25)
30-34	179/545	32.8	0.96	(0.78-1.19)	0.94	(0.78-1.15)
Basic education: Comprehens. school	170/671	25.3	1		1	
High school	216/470	46.0	1.81	(1.54-2.14)	1.63	(1.39-1.91)
Vocational education: No vocat. educ.	124/357	34.7	1		1	
Vocational course or apprenticeship	10/44	22.7	0.65	(0.37-1.15)	0.72	(0.42-1.25)
Vocational school	139/452	30.8	0.89	(0.73-1.08)	0.93	(0.76-1.13)
University of applied sciences	47/116	40.5	1.17	(0.90-1.52)	1.07	(0.83-1.40)
University	37/59	62.7	1.81	(1.42-2.30)	1.47	(1.16-1.87)
Diagnosis: Psychotic disorder	73/400	18.3	1		1	
Depressive disorder	201/459	43.8	2.40	(1.90-3.03)	2.11	(1.66-2.67)
Bipolar disorder	61/167	36.5	2.00	(1.50-2.67)	1.72	(1.29-2.30)
Other mental disorder	80/137	41.6	2.28	(1.71-3.04)	2.14	(1.60-2.85)
Psychiatric comorbidity: No	168/577	29.1	1		1	
Yes	224/586	38.2	1.31	(1.12-1.55)	1.08	(0.92-1.27)
Somatic comorbidity: No	360/1070	33.6	1		1	
Yes	32/93	34.4	1.02	(0.76-1.37)	0.88	(0.66-1.16)
Harmful alcohol use: No	320/846	37.8	1		1	
Yes	72/317	22.7	0.60	(0.48-0.75)	0.71	(0.57-0.89)
Drug use: No	362/985	36.8	1		1	
Yes	30/178	16.9	0.46	(0.33-0.64)	0.61	(0.44-0.85)
Psychiatric hospital admission: No	142/395	35.9	1		1	
Yes	250/768	32.6	0.91	(0.77-1.07)	1.08	(0.92-1.27)
Symptoms at school age: No	167/611	27.3	1		1	
Yes	225/552	40.8	1.49	(1.27-1.76)	1.40	(1.19-1.65)
Childhood adversity: No	193/617	31.3	1		1	
Yes	199/546	36.4	1.17	(0.99-1.37)	1.04	(0.59-1.21)
Attached to employment or educ.: No	159/598	26.6	1		1	
Yes	233/565	41.2	1.56	(1.31-1.83)	1.34	(1.15-1.57)

PR, prevalence ratio; CI, confidence interval;*Unadjusted; †Adjusted for sex, age, diagnosis and psychiatric hospital admission

Table 2. Associations of socio-demographic and clinical characteristics with implemented vocational intervention

	Implemented vocational intervention N=921					
Characteristics	**n of cases/N**	**%**	**PR***	**(95% CI)**	**PR†**	**(95% CI)‡**
All	235/921	25.5				
Sex: Men	120/431	27.8	1		1	
Women	115/490	23.5	0.84	(0.68-1.05)	0.84	(0.67-1.05)
Age (years) 18-24	29/160	18.1	1		1	
25-29	68/276	24.6	1.36	(0.92-2.01)	1.39	(0.94-2.05)
30-34	138/485	28.5	1.57	(1.10-2.25)	1.61	(1.12-2.23)
Basic education: Comprehens. school	163/589	27.7	1		1	
High school	65/314	20.7	0.75	(0.58-0.96)	0.77	(0.59-0.99)
Vocational education: No vocat. educ.	48/199	24.1	1		1	
Vocational course or apprenticeship	14/41	34.1	1.42	(0.87-2.31)	1.22	(0.75-2.01)
Vocational school	114/414	27.5	1.14	(0.85-1.53)	1.06	(0.79-1.42)
University of applied sciences	26/106	24.5	1.02	(0.67-1.54)	0.94	(0.61-1.43)
University	3/52	5.8	0.24	(0.18-0.74)	0.21	(0.68-0.66)
Diagnosis: Psychotic disorder	83/319	26.0	1		1	
Depressive disorder	93/367	25.3	0.97	(0.76-1.26)	0.97	(0.73-1.25)
Bipolar disorder	25/133	18.8	0.72	(0.49-1.08)	0.72	(0.48-1.08)
Other mental disorder	34/102	33.3	1.28	(0.92-1.78)	1.27	(0.89-1.81)
Psychiatric comorbidity: No	109/464	23.5	1		1	
Yes	126/457	27.6	1.17	(0.94-1.47)	1.13	(0.89-1.43)
Somatic comorbidity: No	209/843	24.8	1		1	
Yes	26/78	33.3	1.34	(0.96-1.88)	1.32	(0.94-1.84)
Harmful alcohol use: No	157/654	24.0	1		1	
Yes	78/267	29.2	1.22	(0.97-1.53)	1.21	(0.96-1.54)
Drug use: No	198/768	25.8	1		1	
Yes	37/153	24.2	0.94	(0.69-1.27)	0.92	(0.67-1.25)
Psychiatric hospital admission: No	85/320	26.6	1		1	
Yes	150/601	25.0	0.94	(0.75-1.81)	1.01	(0.78-1.30)
Symptoms at school age: No	119/508	23.4	1		1	
Yes	116/413	28.1	1.20	(0.96-1.50)	1.28	(1.02-1.60)
Childhood adversity: No	103/490	21.0	1		1	
Yes	132/431	30.6	1.48	(1.17-1.82)	1.50	(1.20-1.88)
Attached to employment or educ.: No	172/586	29.4	1		1	
Yes	63/335	18.8	0.64	(0.50-0.83)	0.64	(0.49-0.83)

PR, prevalence ratio; CI, confidence interval;*Unadjusted; †Adjusted for sex, age, diagnosis and psychiatric hospital admission

Table 3. Associations of socio-demographic and clinical characteristics with planned psychotherapeutic intervention

	Planned psychotherapeutic intervention N=1163					
Characteristics	**n of cases/N**	**%**	**PR***	**(95% CI)**	**PR†**	**(95% CI)‡**
All	360/1163	30.9				
Sex: Men	114/515	22.1	1		1	
Women	246/648	38.0	1.72	(1.42-2.07)	1.46	(1.21-1.75)
Age (years) 18-24	88/252	34.9	1		1	
25-29	113/366	30.9	0.88	(0.70-1.11)	0.87	(0.72-1.09)
30-34	159/545	29.2	0.84	(0.68-1.03)	0.79	(0.65-0.96)
Basic education: Comprehens. school	170/671	25.3	1		1	
High school	188/470	40.0	1.58	(1.33-1.87)	1.49	(1.27-1.75)
Vocational education: No vocat. educ.	112/357	31.4	1		1	
Vocational course or apprenticeship	11/44	25.0	0.80	(0.47-1.36)	0.89	(0.54-1.46)
Vocational school	131/452	29.0	0.92	(0.75-1.14)	0.98	(0.80-1.20)
University of applied sciences	43/116	37.1	1.18	(0.89-2.18)	1.20	(0.92-1.56)
University	30/59	50.8	1.62	(1.21-2.18)	1.55	(1.18-2.02)
Diagnosis: Psychotic disorder	52/400	13.0	1		1	
Depressive disorder	202/459	44.0	3.39	(2.58-4.45)	2.85	(2.14-3.79)
Bipolar disorder	51/167	30.5	2.35	(1.67-3.31)	2.04	(1.44-2.88)
Other mental disorder	55/137	40.1	3.09	(2.23-4.28)	2.62	(1.88-3.66)
Psychiatric comorbidity: No	152/577	26.3	1		1	
Yes	208/586	35.5	1.35	(1.13-1.61)	1.03	(0.87-1.22)
Somatic comorbidity: No	338/1070	31.6	1		1	
Yes	22/93	23.7	0.75	(0.51-1.09)	0.59	(0.41-0.86)
Harmful alcohol use: No	307/846	36.3	1		1	
Yes	53/317	16.7	0.46	(0.36-0.60)	0.54	(0.42-0.70)
Drug use: No	341/985	34.6	1		1	
Yes	19/178	10.7	0.31	(0.20-0.48)	0.40	(0.26-0.62)
Psychiatric hospital admission: No	163/395	41.3	1		1	
Yes	197/768	25.7	0.62	(0.53-0.74)	0.78	(0.66-0.92)
Symptoms at school age: No	167/611	27.3	1		1	
Yes	193/552	35.0	1.28	(1.08-1.52)	1.14	(0.96-1.35)
Childhood adversity: No	175/617	28.4	1		1	
Yes	185/546	33.9	1.20	(1.01-1.42)	1.00	(0.85-1.18)
Attached to employment or educ.: No	151/598	25.3	1		1	
Yes	209/565	37.0	1.47	(1.23-1.75)	1.27	(1.07-1.49)

PR, prevalence ratio; CI, confidence interval; *Unadjusted; † Adjusted for sex, age, diagnosis and psychiatric hospital admission.

Table 4. Associations of socio-demographic and clinical characteristics with planned vocational intervention

	Planned vocational intervention N=1163					
Characteristics	**n of cases/N**	**%**	**PR***	**(95% CI)**	**PR†**	**(95% CI)‡**
All	373/1163	32.1				
Sex: Men	178/515	34.6	1		1	
Women	195/648	30.1	0.87	(0.74-1.03)	0.90	(0.76-1.07)
Age (years) 18-24	73/252	29.0	1		1	
25-29	113/366	30.9	1.07	(0.83-1.37)	1.07	(0.83-1.37)
30-34	187/545	34.3	1.18	(0.83-1.36)	1.19	(0.95-1.49)
Basic education: Comprehens. school	222671	33.1	1		1	
High school	144/470	28.3	0.93	(0.78-1.10)	0.96	(0.80-1.15)
Vocational education: No vocat. educ.	103/357	28.9	1		1	
Vocational course or apprenticeship	15/44	34.1	1.18	(0.75-1.67)	1.11	(0.71-1.75)
Vocational school	160/452	35.4	1.23	(0.81-1.51)	1.18	(0.96-1.46)
University of applied sciences	37/116	31.9	1.11	(1.00-1.51)	1.08	(0.78-1.50)
University	19/59	32.2	1.12	(0.76-1.84)	1.08	(0.71-1.64)
Diagnosis: Psychotic disorder	134/400	33.5	1		1	
Depressive disorder	134/459	29.2	0.87	(0.72-1.06)	0.87	(0.70-1.08)
Bipolar disorder	117/167	29.9	0.89	(0.68-1.17)	0.90	(0.68-1.19)
Other mental disorder	55/137	40.1	1.20	(0.94-1.53)	1.18	(0.91-1.53)
Psychiatric comorbidity: No	194/577	33.6	1		1	
Yes	179/586	30.5	0.91	(0.77-1.07)	0.88	(0.74-1.05)
Somatic comorbidity: No	339/1070	31.7	1		1	
Yes	34/93	36.6	1.15	(0.87-1.53)	1.16	(0.88-1.54)
Harmful alcohol use: No	273/846	32.3	1		1	
Yes	83/317	26.2	0.82	(0.67-1.01)	0.80	(0.65-0.98)
Drug use: No	312/985	31.7	1		1	
Yes	44/178	24.7	0.82	(0.63-1.06)	0.79	(0.60-0.99)
Psychiatric hospital admission: No	129/395	32.7	1		1	
Yes	227/768	29.6	0.95	(0.80-1.13)	0.95	0.79-1.15
Symptoms at school age: No	188/611	30.8	1		1	
Yes	168/552	30.4	0.96	(0.81-1.13)	0.97	(0.82-1.16)
Childhood adversity: No	200/617	32.4	1		1	
Yes	156/546	28.6	0.84	(0.71-1.00)	0.84	(0.71-1.00)
Attached to employment or educ.: No	181/598	30.3	1		1	
Yes	175/565	31.0	0.97	(0.82-1.14)	1.02	(0.86-1.21)

PR, prevalence ratio; CI, confidence interval; *Unadjusted; † Adjusted for sex, age, diagnosis and psychiatric hospital admission