Promoting work participation of non-permanent workers with psychological problems

An evidence-based approach to occupational health care

Selwin S. Audhoe

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The studies described in this thesis were carried out at the Academic Medical Center, University of Amsterdam, department: Coronel Institute of Occupational Health, Amsterdam, the Netherlands. The Coronel Institute of Occupational Health participates in the Dutch Research Center for Insurance Medicine, which is a joint initiative of the Amsterdam Medical Center (AMC), the Dutch Institute for Employee Benefit Schemes (UWV), the University Medical Center Groningen (UMCG) and the VU University Medical Center (VUmc).

English title: Promoting work participation of non-permanent workers with psychological problems. An evidence-based approach to occupational health care

Nederlandse titel: Bevorderen van arbeidsparticipatie bij zieke werklozen, uitzendkrachten en werknemers met een beëindigd dienstverband met psychische klachten. Een evidence-based benadering van de bedrijfsgezondheidszorg

ISBN

978-94-6259-993-2

Cover design and lay-out

Promotie In Zicht, Arnhem

Print

Ipskamp Drukkers, Enschede

Please cite as: Audhoe S.S. (2016). Promoting work participation of non-permanent workers with psychological problems (Doctoral Dissertation). Amsterdam: University of Amsterdam.

Promoting work participation of non-permanent workers with psychological problems

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ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad van doctor
aan de Universiteit van Amsterdam
op gezag van de Rector Magnificus
prof. dr. D.C. van den Boom
ten overstaan van een door het College voor Promoties ingestelde commissie,
in het openbaar te verdedigen in de Aula der Universiteit

op woensdag 27 januari 2016, te 13.00 uur

door Selwin Sudesh Audhoe
geboren te Paramaribo, Suriname

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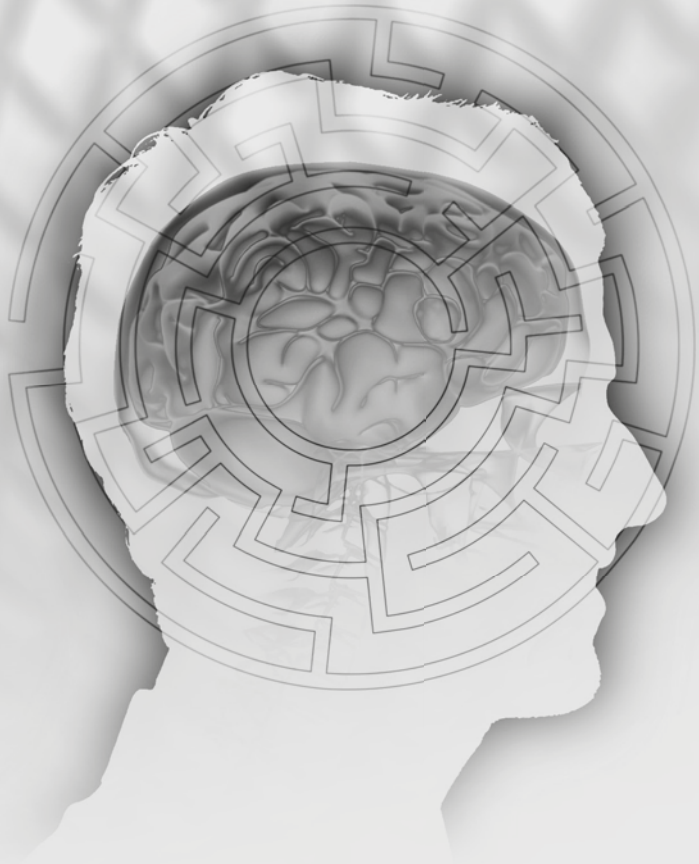
Contents



CHAPTER 1

General introduction

Work participation in non-permanent workers with psychological problems

In recent decades, sick leave due to psychological problems, such as depression, anxiety and stress-related disorders, has increased considerably worldwide. Psychological problems are the major cause of absenteeism (40%) and prolonged work disability, including disability pensions, in many high-income countries today [1,2]. Apart from the individual suffering caused by psychological problems [3,4], associated sick leave creates a considerable economic burden to society and has emerged as a major public and occupational health problem in many countries [1,2,5].

Workers without a permanent employment contract, also known as non-permanent workers, such as the unemployed and temporary agency workers and workers with an expired fixed-term contract, represent a vulnerable group within the working population**.** They are at even greater risk for sickness absence and prolonged work disability due to psychological problems than the general working population [6-9]. In the Netherlands, non-permanent workers have a three times greater risk of becoming long-term work disabled (>18 months) compared to workers with a permanent employment contract (employed workers) [10].

This vulnerable group of non-permanent workers is characterized by a poor mental health status, low socio-economic position, less job security, lower education and has more often a non-native background compared to employed workers [7,8,11]. Compared to sick-listed employed workers, sick-listed non-permanent workers perceive their health status more negatively and encounter more psychosocial barriers (such as personal problems, debts, addiction, legal proceedings, care issues) during the return to work (RTW) process [7,8,11-13]. Moreover, these workers experience a greater distance to the labor market compared to sick-listed employed workers because there is no workplace to return to when sick-listed [11].

Despite the higher risk of prolonged work disability, little is known about effective interventions to promote work participation in non-permanent workers. An overview of which interventions or elements of an intervention are effective for non-

permanent workers is still lacking. Consequently, research on effective interventions, including a literature review, and an analysis of factors influencing work participation of non-permanent workers are needed. The need for effective interventions to promote work participation of non-permanent workers with psychological problems is becoming increasingly evident in European countries. This is largely the result of the economic recession [14] and changing labor market conditions, which in recent years has led to relatively more workers becoming non-permanent workers [7,15,16]. Given the growing rate of non-permanent workers, the increasing rate of sick leave due to psychological problems and the higher risk for prolonged work disability in this group, the burden these non-permanent workers impose on public or occupational health programs/systems has become even greater [7,15,16]. In addition, the suffering of these non-permanent workers with psychological problems due to loss of employment is more severe than is the case with people without mental health problems [14].

Studies on employed workers versus non-permanent workers

Most intervention studies have been conducted on employed workers. However, these show variable results in terms of reducing sick leave or improving RTW [17-21]. Research shows that a reduction in symptoms does not automatically lead to the recovery of functioning at work [17-19]. Scientific evidence on methods that successfully enhance RTW for workers with psychological problems is limited [20-22]. Only a few RTW studies on employed workers with psychological problems report favorable effects of work-directed intervention programs [17-19,23]. Work-directed interventions show that an early focus on work-related aspects, including work-related barriers, can improve and facilitate a timely RTW. However, it remains unclear whether work-directed interventions will be effective for sick-listed non-permanent workers, since there is no workplace to which they can return. Incorporating workplace options such as a temporary workplace or work placement/internship in RTW interventions of non-permanent workers proves to be a challenge. A study using a participatory RTW program for non-permanent workers with musculoskeletal disorders whereby a temporary (therapeutic) workplace was created showed more rapid work resumption, thereby helping to reduce work disability [24].

In addition, there is some knowledge available of prognostic factors for RTW in sick-listed employed workers with psychological problems [6]. In a review, strong evidence was found that older age (>50 years) is a negative predictor for RTW and is associated with prolonged work disability. Furthermore, limited evidence was found for the association of other personal factors (male gender, medium- or higher education, history of previous sickness absence, negative recovery expectations, low socio-economic status), health-related factors (stress-related and shoulder/back pain, depression/anxiety disorder), and external work-related factors (e.g., poor quality, quality and continuity of occupational care) with longer time to RTW and prolonged work disability. The question that needs to be addressed is whether these factors or other unknown factors apply to sick-listed non-permanent workers with psychological problems. Knowledge about these factors can help identify sick-listed workers with a high risk for work disability, and provide input for sickness absence counseling and development of RTW interventions. At the same time, it is essential to make a distinction between modifiable factors (e.g., recovery expectation) and non-modifiable factors (e.g., age), since the modifiable factors can be targeted with an intervention.

Finally knowledge is available from studies evaluating perceptions, barriers and solutions regarding RTW in employed workers. These studies show that the workers' own RTW perception can predict RTW [25-27]. Such promoting factors for RTW include a positive recovery expectation, a good perceived health and work motivation [26,28]. Some factors impeding RTW are negative illness perceptions, an inefficient coping style, sickness behavior and low social support [28-30]. It is important to investigate whether these perceptions and factors also apply for non-permanent workers and to acknowledge that not only medical factors influence RTW. A better understanding of perceptions and factors that facilitate or complicate RTW can assist in developing effective interventions.

Occupational health care for sick-listed non-permanent workers in the Netherlands

In many countries, sick-listing can only occur when an individual is (gainfully) employed. However, in the Netherlands, the Sickness Benefits Act provides a social security safety net for sick-listed workers that do not have an employment contract. After approval of the sickness benefit claim by the Dutch Social Security Agency (SSA), the sick-listed worker receives a supportive income, which is maximally 70% of the last daily wage, with a ceiling at 199 euros per day (2015). Due to this partial loss of income, these workers may face financial problems. The sickness benefit applies for a maximum of the first two years of sickness absence. There are no legislative mandates for these workers to be returned to their previous/last job. Since there is no employer or workplace to return to, the SSA is responsible for sickness absence counseling, vocational rehabilitation and the facilitating of RTW. Counseling and vocational rehabilitation is conducted by a team of occupational health professionals of the SSA, consisting of an insurance physician, a labor expert and a case manager. Furthermore, the SSA is responsible for performing general compulsory occupational health care activities as dictated by the Dutch Improved Gatekeeper Act. These activities include conducting a (medical) problem analysis and formulating an RTW action plan. The insurance physician of the SSA guides the worker according to principles described in the guidelines for occupational health care specified by the Netherlands Society of Occupational Medicine. The labor expert within the SSA is responsible for vocational rehabilitation support, while the case manager monitors the vocational rehabilitation process to evaluate the progress. Counseling by the SSA and sickness benefit terminates once the insurance physician has determined that full recovery of health and/or full work ability for the last performed work has been achieved, i.e., functional work limitations for the last performed work (with or without actual RTW of the worker) are no longer present. During the second year of sickness absence, full work ability to perform adjusted work with income equal to that earned during last performed work also can be taken into account as a criterion for ending the sickness benefit. If the worker is still partially or fully work disabled after 18 months, he/she can apply for a long-term disability benefit (disability pension) via the Dutch Institute for Employee Benefit Schemes (UWV).

The disability pension starts being paid out after two years of sick leave. This period is the same as for long-term sick-listed employed workers.

Conceptual model for work participation of sick-listed non-permanent workers

This thesis is focused on how work participation of sick-listed non-permanent workers with psychological problems can be promoted by investigating prognostic factors, perspectives of workers about RTW, and interventions that can influence work participation.

One of the primary problems these workers encounter is loss of control. Psychological problems can negatively affect people's daily lives and work performance [31]. The difficulties people experience in performing routine activities at home, work, school or in other social areas are important reasons for seeking treatment or reporting sick, rather than the disease itself [32]. Work participation including RTW can be accomplished by the regaining of control and functional recovery of the sick-listed worker, preferably at an early stage of sick leave. Regaining control and functional recovery of the worker can be achieved by activating the worker, providing the worker with a daily structure filled with sufficient activities, removing barriers for RTW, and eventually (partial) RTW [33,34].

In order to reduce the negative consequences of the psychological problems and to stimulate recovery from symptoms and daily (work) functioning, several model-based approaches to guide and treat individual patients have been developed. Although there is no common adopted paradigm for RTW, many researchers in the field of occupational health have embraced the biopsychosocial model as a theoretical framework [35,36]. In this model, the individual is seen as a unit, with biological, psychological, and social perspectives within which an interaction of biological, psychological and social factors may contribute to physical and psychological symptoms. This model takes into account the influence of social-interactional factors on the private, work and health care environments. The social support of family, friends, colleagues, supervisors, and health care professionals, and the level of functioning in daily activities at home and at work

are also considered relevant in reducing the negative consequences of psychological problems. Based on the biopsychosocial model, the World Health Organization introduced the International Classification of Functioning, Disability and Health (ICF) [37]. The ICF model is an integrative approach proposing disability as a phenomenon resulting from a dynamic interactive process in which impairment in bodily functions and structures, and subsequent development of functional limitations (activity level) leads to restrictions at the participation level, all within the context of medical, personal, and external factors. Viewed from this perspective, work disability can be placed at the participation level.

Taking into account the above-mentioned generally accepted models in occupational health research and the positive findings of work-directed programs [17-19,23], it was hypothesized that activating work-directed interventions focused on the specific barriers and problems for RTW in the context of different environments (private, work/social and health care) of these non-permanent workers will promote work participation. To illustrate this approach, a conceptual model of how interventions might influence the work participation of non-permanent workers with psychological problems is described in figure 1, which is based on the biopsychosocial and ICF models. In line with the biopsychosocial approach, in addition to the mental health problems/impairments, the model includes the effects of individual/personal factors and external factors impeding work participation. Furthermore, based on the ICF model, improvement in functioning and restoring activities are integrated into the model as essential elements for participating in work/RTW.

In this thesis the focus is on the various factors or elements displayed in the four boxes of the conceptual model. The first step, prior to applying the model, is to evaluate what is known from previous research regarding this group of workers. The knowledge obtained can, where applicable, be supplemented in the model. The second step is to evaluate the barriers and problems for RTW according to three categories of factors: medical, external, and personal. This step can provide: (1) prognostic information regarding RTW (e.g., based on medical, external or personal factors); (2) insight into the specific barriers for RTW; and (3) information about perceptions regarding RTW (e.g., personal factors like recovery expectation).

The information from box 1 can be used in the intervention focusing on the barriers/perceptions and modifiable prognostic factors for RTW. Box 2 represents the activating intervention tailored to the severity and nature of the problems as evaluated in box 1. The goal of the activating intervention aimed at the specific barriers for RTW is to restore activities, and the functioning and regaining of control as described in box 3. The factors in box 3 are essential to achieve work participation as described in box 4.

To clarify the above-mentioned conceptual model, let us consider the following case. A 51-year old man with a medium-level education who has worked the past 15 years as a bus driver became unemployed (=*external factor*) six months ago and was entitled to receive a temporary unemployment benefit according to the Dutch Unemployment Benefits Act. He lost his job due to the economic problems suffered by the company he was working. For some reason he developed depressive symptoms (=*medical factor*), exacerbated by the prospect that finding a new job at his age would be difficult (=*personal factor*), and the economic crisis (=*external factor*). Furthermore, due to the loss of (part of) his income, he has run into financial problems and finds it difficult to maintain mortgage repayments (=*external factor*). This lack of perspective causes his psychological complaints to deteriorate. He becomes more and more inactive and experiences difficulties in performing routine activities at home (*loss of control=medical factor*). He finally decides to report sick, because he is not able to function properly. To approve his sickness benefit claim, he is invited to attend the consultation hour of the insurance physician of the SSA. During this meeting, he explains he has difficulties concentrating (=*medical factor*) and coping (=*personal factor*) with the situation (job loss, debts, etc.). Furthermore, he states that he is not expecting to be able to return to work within the next six months (*negative recovery expectation=-personal factor*). The insurance physician evaluates the specific barriers for RTW and advises an intervention targeting the specific barriers and problems for RTW, including debt counseling, psychological treatment (e.g., focusing on his complaints, his inappropriate coping, cognitions, and negative recovery expectations) and possibly a temporary work placement or internship to improve functioning (=*improvement in functioning*). The insurance physician also offers him structure and advises him to stay active and to gradually resume his daily activities

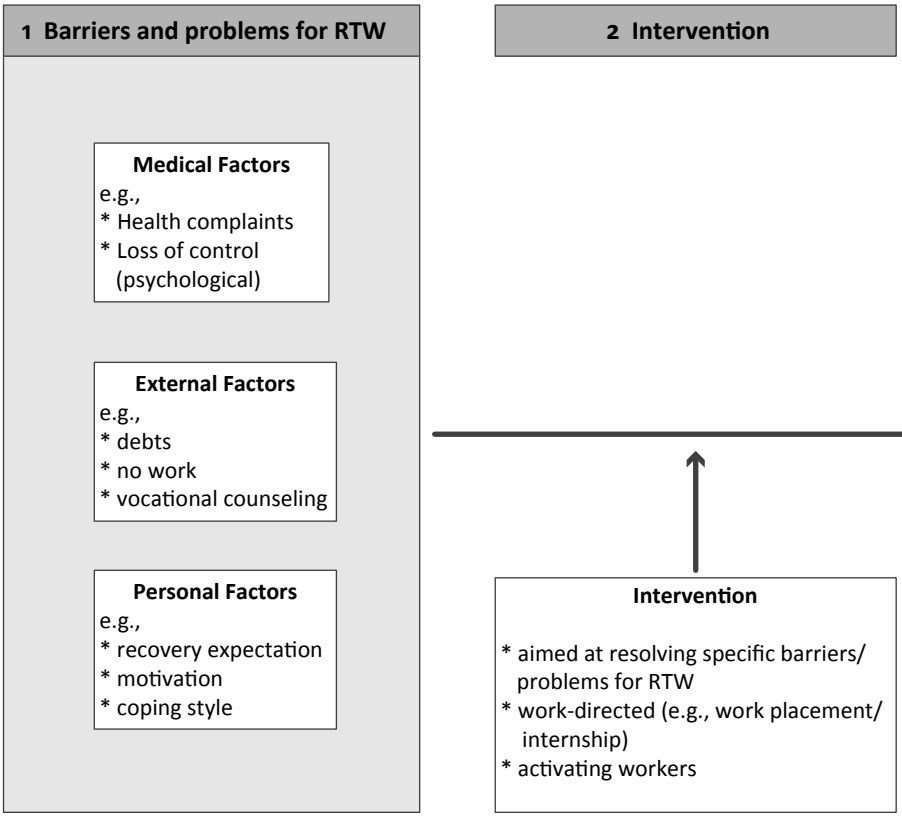
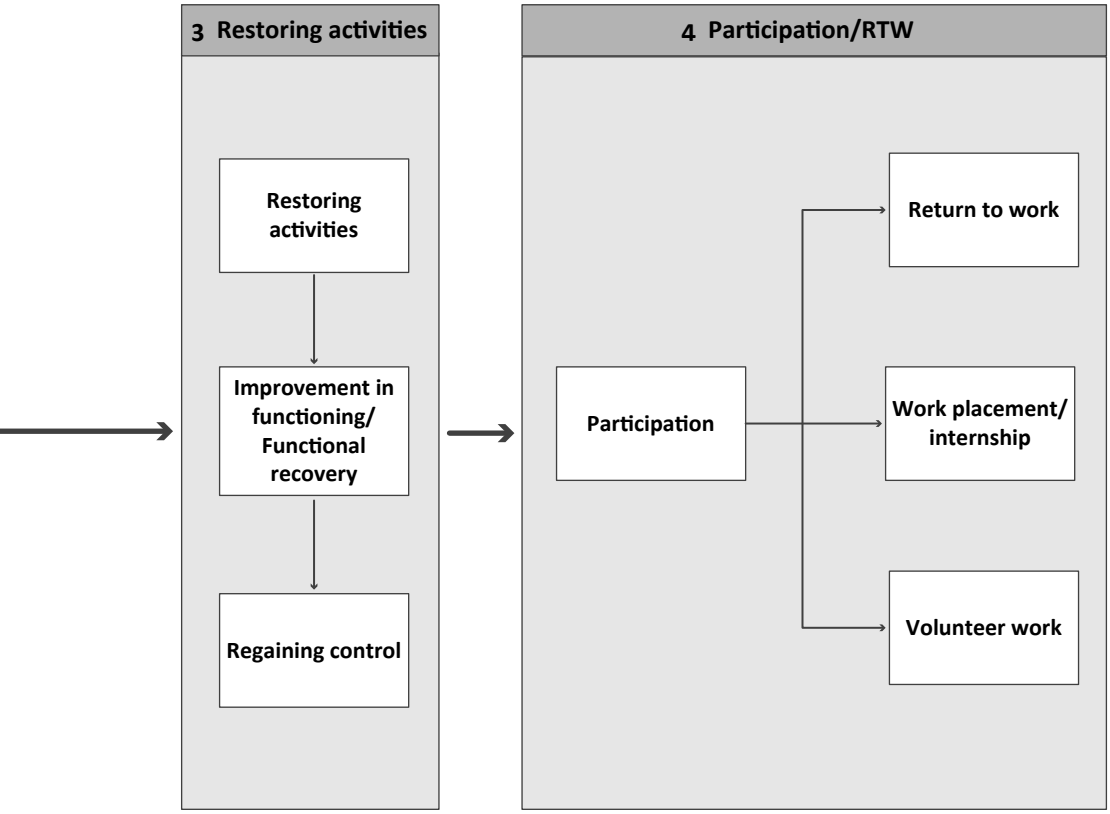


Figure 1 Conceptual model for work disability and work participation for workers with psychological problems without a permanent employment contract based on the biopsychosocial and ICF models

(=*restoring activities*). Improvement in functioning and restoring activities should lead to the worker regaining control.


3 Restoring activities
Restoring activities
Improvement in functioning/ Functional recovery
Regaining control
4 Participation/RTW
Participation
Return to work
Work placement/ internship
Volunteer work

Research initiatives aimed at the prevention and/or management of non-permanent workers at risk of permanent work disability can focus on different strategies. Evidence-based practice guidelines and interventions should be developed among professionals working in the field of occupational health and disability management [38-43]. Prognostic research can aid this process by identifying prognostic factors for work participation that can assist intervention development. In addition, qualitative research can help in understanding which underlying mechanisms and strategies workers with psychological problems use so that professionals can better target interventions towards the needs of clients. Furthermore, the scientific literature can be an aid to provide insight into potentially effective RTW interventions or strategies for this group of workers. Professionals working with non-permanent workers with psychological problems often also have good ideas about what works in daily practice and what does not, occasionally leading to valuable practice-based initiatives. In this thesis we explore several of these options as outlined in the respective chapters.

Thesis objective and research questions

The aim of the research described in this thesis is to promote the work participation of non-permanent workers who are sick-listed due to psychological problems.

The following research questions have been formulated:

1. Which factors and perspectives that influence work participation can be distinguished in non-permanent workers who are sick-listed due to psychological problems?
2. Which interventions improve the work participation of non-permanent workers who are sick-listed due to psychological problems?

Thesis outline

Research question 1 is addressed in Chapters 2 and 3.
First, **Chapter 2** presents the results of a longitudinal cohort study. This study aimed to identify prognostic factors for the future work participation of medium- and long-term sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts with psychological problems.

Chapter 3 presents the results of a qualitative study evaluating barriers and solutions for RTW in the perspective of unemployed workers who were sick-listed due to psychological problems.

Research question 2 is addressed in Chapters 4 to 7.
Chapter 4 presents the results of a systematic literature review on the effectiveness of vocational interventions on work participation and mental distress for unemployed workers and an overview of the characteristics of these interventions.

Chapter 5 presents the development and qualitative evaluation of an adapted RTW guideline for sick-listed unemployed and temporary agency workers with minor psychological problems.

Chapter 6 describes the Brainwork Intervention and the design of a controlled clinical trial to study its effectiveness in reducing the duration of sick leave for sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts who have psychological problems, compared to care as usual.

Chapter 7 presents the results of a controlled clinical trial on the effectiveness of the Brainwork Intervention study in reducing the duration of sick leave.

Chapter 8 is the general discussion of this thesis, and includes the main research findings and recommendations for practice, policy makers and research.

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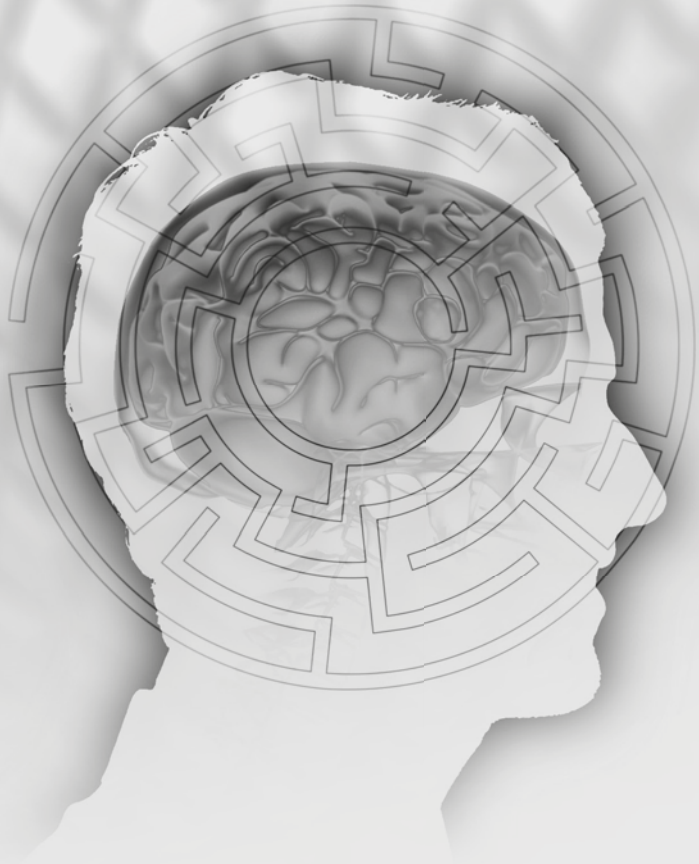

CHAPTER 2

Prognostic factors for the work participation of sick-listed unemployed and temporary agency workers with psychological problems

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J Occup Rehabil. 2012; 22(4):437-446.

ABSTRACT

Introduction

Among the working population, unemployed and temporary agency workers are a particularly vulnerable group, at risk for sickness absence due to psychological problems. Knowledge of prognostic factors for work participation could help identify sick-listed workers with a high-risk for work disability and provide input for sickness absence counseling. The purpose of this study was to identify prognostic factors for the work participation of medium- and long-term sick-listed unemployed and temporary agency workers with psychological problems.

Methods

A cohort of 932 sick-listed unemployed and temporary agency workers with psychological problems was followed for one and a half years. Data collection was conducted at three time-frames: 10 months, 18 months and 27 months after reporting sick. Univariate and multiple logistic regression analyses were performed.

Results

Perceived health, full return-to-work (RTW) expectations, age and work status at 18 months were strong prognostic factors for work participation at subsequent time-frames in the univariate analyses. Multiple logistic regression revealed that full RTW expectation was a prognostic factor for future work participation in both the medium- and long-term, whereas moderate-to-good perceived health was a prognostic factor for work participation in the medium-term. Being under 45 years of age and having a positive work status at 18 months were prognostic factors for work participation in the long-term.

Conclusions

Workers' self-appraisal of health, age and work status were strong prognostic factors for the future work participation of sick-listed unemployed and temporary agency workers with psychological problems. These findings could help occupational and insurance physicians identify high-risk sick-listed workers for sickness absence counseling.

INTRODUCTION

In recent decades, psychological problems have been a growing cause of sickness absence [1,2], and have emerged as a major public and occupational health problem in many countries [3]. Psychological problems are now the leading cause of sickness absence in most high-income countries, accounting for approximately 40% of the total time covered by sick notes [4]. In Europe, most of this sickness absence is caused by mild psychological problems [5,6]. In Great Britain, approximately 40 million workdays are lost annually due to mild psychological problems [7]. Furthermore, psychological problems are strongly associated with prolonged work disability [8-10]. In the Netherlands, psychological problems account for one-third of all disability benefits [11].

Workers whose employment contract is missing (i.e., workers without an employment contract or unemployed workers) or is flexible (i.e., workers with flexible labor market arrangements, such as temporary agency workers and fixed-term contract workers) are at even greater risk for work disability due to psychological problems than the general working population as there is no employer to return to when sick-listed. Therefore workers without an employment contract or with flexible contracts are a vulnerable group. Considering the consequences of sickness absence due to psychological problems for both individuals and society, predicting which people with psychological problems are at risk for prolonged work disability is important and even more for the aforementioned vulnerable group. The identification of prognostic factors could help provide input for sickness absence counseling or interventions at an early stage to prevent long-term sick leave and the subsequent transition to permanent disability. There is some evidence that vocational interventions can improve work participation and reduce mental distress in the unemployed [12]. However, evidence about prognostic factors for the work participation of unemployed and temporary workers who are sick-listed due to psychological problems is scarce. Therefore, this research aimed to evaluate the prognostic factors for the work participation of this group. For the remainder of this article, “temporary agency workers” also refers to other flexible workers with expired fixed-term contracts.

As shown in the literature, sickness absence due to psychological problems is not determined by psychological problems alone; it is also influenced by other factors, such as work related factors, health expectations (e.g., recovery expectations) and personal factors (e.g., education level) [13,14]. There is strong evidence that older age (>50 years) is a negative predictor for return to work (RTW) and is associated with continuing disability. Furthermore, there is limited evidence for the association of personal factors (gender, education, history of previous sickness absence, negative recovery expectations, socio-economic status) and work-related factors (e.g., the quality and continuity of occupational care) with RTW and disability [14]. However, these factors were studied in employed workers and during their first year of sickness absence. The question is whether these factors or other unknown factors apply to unemployed or temporary agency workers who have been sick for one year or more, because prognostic factors can change or become less or more relevant during the period of sickness absence.

Some of the above-mentioned prognostic factors for RTW, such as age, education and history of previous sickness absence, will not change during the sickness absence period. However, other factors may change or become less or more relevant during the sickness absence period. For instance, it is conceivable that health expectations and health perceptions are less important at the beginning of the sickness absence period but that these factors become more manifest during long-term absence because of growing uncertainty and an awareness or lack of future perspectives during sick leave. Therefore, in this study, we examined prognostic factors for the future work participation of medium- and long-term sick-listed unemployed and temporary agency workers with psychological problems. We aimed to identify prognostic factors that emerged during the sick leave period, in addition to unchanging prognostic factors. To achieve this, we chose to study the prognostic factors of workers who had been sick-listed for 10 and 18 months so that we could identify those sick-listed workers who are at high risk for work disability at different stages of sickness absence. The relevance for practice lies in the need for physicians or other health professionals to assess the prognosis of future work participation of those who have not returned to work within a given time-frame.

Considering the need for evidence about prognostic factors for the work participation of sick-listed unemployed and temporary agency workers with psychological problems and the great risk for work disability of these workers, further research of this underexposed group is important. Prognostic research could provide information to help identify sick-listed workers with a high-risk for work disability and provide input for sickness absence counseling.

The following research questions were formulated for unemployed and temporary agency workers who were sick-listed due to psychological problems: (1) what are the prognostic factors for work participation at 18 months among workers who had been sick-listed for 10 months (medium-term): (2) what are the prognostic factors for work participation at 27 months among workers who had been sick-listed for 18 months (long-term)?

METHODS

Design

This study involved a longitudinal cohort survey of sick-listed unemployed workers (workers without an employment contract), temporary agency workers and fixed-term contract workers (those who had an expired contract while they were sick-listed) registered at the Dutch Social Security Agency (SSA). The information collected for this study was part of a national survey. The cohort was followed for one and a half years, and three measurements were taken: a baseline measurement at 10 months after reporting sick (T1) and two follow up measurements at 18 (T2) and 27 (T3) months after reporting sick.

Population

A total of 5,754 unemployed and temporary agency workers who had reported sick early December 2006-late January 2007 and had been sick-listed for 9 months received a questionnaire. Of those 2,408 entered the cohort by replying to the questionnaire. From the cohort, we selected a subset of 932 sick-listed unemployed and temporary agency workers for our study whose main reason for sickness absence were (self-reported) psychological complaints. Inclusion criteria for entry in the cohort were as follows: age between 16 and 64 years, reporting

sick around January of 2007 and have been sick-listed for at least 9 months at baseline, (self-reported) mental complaints and unemployed or temporary agency worker status.

Procedure

At follow-up, only the sick-listed workers who had responded to the previous questionnaire were approached. The questionnaires were sent to members of the study population at their home address.

Parameters

The independent and dependent variables listed below were collected through questionnaires as used in international literature and studies [13,15] and in several epidemiological studies on work disability from 1985 till 2003 in the Netherlands [16,17]. The potential independent prognostic variables at T1 were demographic characteristics, health characteristics (perceived health, reason for sick listing, health complaints before reporting sick), work-related factors (type of worker, RTW interventions, self-reported perceived RTW interventions from SSA), and full RTW expectations (regarding health). The potential prognostic variables at T2 were demographic characteristics, health characteristics (perceived health, reason for sick listing), work-related factors (type of worker, RTW interventions, self-reported perceived RTW interventions from SSA, work status at 18 months after reporting sick), and full RTW expectations (regarding health).

Independent variables

Demographic characteristics

The following demographic characteristics were determined: (a) age (in years), (b) gender (male, female), (c) marital status (married or living with a partner, single, widowed or divorced), (d) ethnicity (native Dutch vs. non-native was assessed in two questions regarding the country of birth for the sick-listed person and his/her parents), and (e) educational level (low, medium or high). Low educational level included primary school, lower vocational education, and lower secondary school. Medium educational level included intermediate vocational education and upper secondary school. High educational level included upper vocational education and university.

Health characteristics

The following health characteristics were determined: (a) perceived health of the sick-listed person (self-report, based on a single item: "In general, how is your state of health now?"; answer categories were: poor, moderate, good), (b) reason for sick listing ([cause of absenteeism]; self-report, single item: "What were the health complaints with which you reported sick around January 2007?"; different pre-categorized answers with physical and psychological complaints were possible, answers categories that mentioned mental distress, burn-out and other psychological complaints were selected for further analysis), and (c) health complaints before reporting sick (self-report, single item: "Did you experience health complaints before reporting sick?"; answer categories were: 0-6 months, 6-12 months or longer than 12 months before reporting sick).

Work-related factors

The following work-related factors were assessed: (a) type of worker (unemployed or temporary agency/fixed-term contract worker), (b) RTW interventions (self-report, single item: "From which agencies did you receive RTW interventions after reporting sick?"; pre-categorized answers listing different agencies, including the vocational rehabilitation agency, employment agency, occupational healthcare service, SSA, employer/temporary employment agency or other agencies), (c) the perceived efforts of RTW interventions from the SSA (self-report, single item: "From 1 to 10, how do you rate SSA's efforts to keep you working or get you back to work?"), and (d) work status of the sick-listed person 18 months after reporting sick (self-report, assessed in three questions related to work resumption since the previous questionnaire; work status [part- or full-time or sick-listed again]; and work circumstances [i.e., work adaptations, working conditions, and work hours]).

RTW expectations

Regarding health, the respondent was asked whether he/she expected a full RTW in the future (self-report, single item: "Do you think your health will permit a full RTW (again) in the future?"; answers categories were: yes, at the same job, yes in another field of work, I do not expect it, I do not know).

Dependent variable

Work participation

The outcome variable was work participation, which was measured in four questions. Work participation was operationalized as a partial or full RTW (e.g., for temporary agency workers) or the ability to work (e.g., for unemployed workers) and not being sick-listed anymore (i.e., no RTW because no employer was available). Full RTW was defined as either working the same number of hours as at the last job the respondent held before reporting sick, or as a RTW with no more sick listing. Partial RTW was defined as working fewer hours than at the last job the respondent held before reporting sick, including unpaid work, or working at another type of job while still officially sick-listed. The outcome assessments at 18 and 27 months after reporting sick were similar, with the exception of ability to work, which was not measured at 27 months. The variables we selected for this study are presented in Table 1.

Analysis

The variable gender (male, female) was binominal. For continuous variables, we used the median as a cut-off point whenever possible. For all categorical variables we used a percentage of approximately 50% as cut-off point whenever possible, except for some categorical variables such as ethnicity, health complaints before reporting sick and perceived RTW interventions by SSA. The following variables were dichotomized; age (<45 years vs. ≥45 years); marital status (married/living with a partner vs. single/ widowed/ divorced); ethnicity (native vs. non-native); educational level (low vs. medium or high); perceived health of the sick-listed person (poor vs. moderate/good); reason for the sick listing (mental distress/ burn-out vs. other psychological complaints); health complaints before reporting sick (no complaints vs. complaints 0-6 months prior to reporting sick/6-12 months prior to reporting sick /longer than 12 months prior to reporting sick); type of worker (unemployed worker vs. temporary agency/fixed-term contract worker); RTW interventions (yes vs. no); perceived RTW interventions from the SSA (insufficient [score 0-5] vs. sufficient [score 6-10]); work status at 18 months after reporting sick (no RTW vs. RTW [partial or full]); full RTW expectations in the future, regarding health (no expectations vs. expectations).

Table 1 Overview of the selected variables and measurement moments for this study

	Prognostic variables (for both unemployed and temporary agency workers)	**10 months**	**18 months**	**27 months**
Category 1	Demographic factors			
	Age	*X*		
	Sex	*X*		
	Marital status	*X*		
	Ethnicity	*X*		
	Education	*X*		
Category 2	Health characteristics			
	Perceived health	*X*	*X*	
	Reason for sick listing	*X*	*X*	
	Health complaints before reporting sick	*X*		
Category 3	Work-related factors			
	Type of worker (unemployed/ temporary agency/fixed-term contract worker)	*X*		
	RTW interventions	*X*	*X*	
	Perceived RTW intervention efforts by SSA[a]	*X*	*X*	
	Work status 18 months after reporting sick		*X*	
Category 4	RTW expectations			
	Full RTW expectation	*X*	*X*	
	Dependent variables			
	RTW (partial or full)[b]		*X*	*X*
	Ability to work[c]		*X*	–

[a] SSA = Dutch Social Security Agency

[b] Full RTW (return to work) was defined as working the same number of hours as worked at the last job before reporting sick or RTW with no further sick listing; partial RTW was defined as working fewer hours than at the last job before reporting sick and included unpaid work or work at another type of job while still sick-listed

[c] Able to work: means no longer sick listed, but did not RTW because no employer was available. The cohort survey conducted 27 months after the participants first reported sick (T3) includes only data for RTW and not for ability to work

Two longitudinal relationships were studied to determine prognostic factors for the future work participation of medium- and long-term sick-listed unemployed and temporary agency workers with psychological problems. First, we analyzed the relationship between the independent prognostic variables at T1 and work participation (partial or full RTW or ability to work) at 18 months (T2). Second, we analyzed the relationship between the independent prognostic variables at T2 and RTW (partial or full) at 27 months (T3). The longitudinal relationships were analyzed with the backwards stepwise logistic regression analysis method.

Prior to the backwards stepwise logistic regression analysis, we performed univariate analyses (χ^2 tests) between the independent prognostic variables and work participation. Independent variables that med the cut-off p value of <0.20 were selected for inclusion in the multiple regression model. Multicollinearity testing of the remaining independent prognostic variables was conducted, and multicollinearity was assumed when the tolerance was ≤0.4. A multiple logistic regression analysis with backward stepwise selection was then performed, resulting in a final model for predicting work participation. The p value of the prognostic variable that was retained in the model was <0.05 (Wald statistics). The Hosmer-Lemeshow test was used to assess the goodness of fit. Response analyses between T1 and T2 and between T2 and T3 were conducted by a multiple logistic regression procedure with the variables selected for inclusion in the multiple logistic regression model as independent variables and response (yes or no) as the dependent variable ($p < 0.05$, Wald statistics). Finally, we estimated the chance of work participation for unemployed and temporary agency workers when all positive prognostic factors were present or absent. All analyses were performed using the SAS software package, Version 9.1.

RESULTS

Participant characteristics

Table 2 presents the characteristics of the cohort at baseline (T1) and T2. Of the 932 participants at baseline, 476 returned the questionnaire at T2 (51% response), and 258 returned it at T3 (54% response of the participants at T2). The participants' mean age at baseline was 42.6 years (SD 11.0 years), and the cohort consisted of

44% men and 56% women. The majority of the participants (93%) reported poor or moderate perceived (mental) health at baseline, and 60% did not expect a full RTW. At T2, 81 (18%) participants returned to part- or full-time work, and 34 participants were able to work but did not return to work because no employer was available. At the end of the follow-up at T3, 55 (21%) participants returned to work part- or full-time.

Univariate analysis

Univariate analysis of the relationship between the independent variables at T1 and work participation at T2 (see Table 3), and between the independent variables at T2 and work participation at T3 (see Table 4) revealed statistically significant associations ($p < 0.05$) for perceived health (moderate-to-good), type of worker (temporary agency worker), RTW interventions and full RTW expectations. Gender (female) and ethnicity (native Dutch) were significant ($p < 0.05$) during the first longitudinal relationship (T1-T2) only, whereas education (medium educational level and higher) and work status at 18 months after reporting sick (partial or full RTW) were significant only for the second longitudinal relationship (T2-T3).

Multiple logistic regression analysis

The following variables had a cut-off p value of <0.20 in the univariate analysis and were selected for the multiple logistic regression analysis of the relationship between the independent variables at T1 and work participation at T2: gender, age, ethnicity, educational level, perceived health, health complaints before reporting sick, type of worker, RTW interventions and full RTW expectations (see Table 3). For the multiple logistic regression analysis between the independent variables at T2 and work participation at T3, the following variables were selected: gender, age, educational level, perceived health, type of worker, RTW interventions, full RTW expectations and work status at 18 months after reporting sick (see Table 4). The results of the multiple logistic regression analysis are presented in Table 5. The Hosmer-Lemeshow test revealed that both prediction models fit ($p = 1.0$ for the T1-T2 prediction model and $p = 0.9$ for the T2-T3 prediction model).

Table 2 Characteristics of the cohort of sick-listed unemployed and temporary agency workers 10 months (T1) and 18 months (T2) after reporting sick

Independent variables	Cohort at T1 *n* = 932 (%)	Cohort at T2 *n* = 476 (%)
Demographic characteristics		
Sex		
Male	398 (44)	205 (44)
Female	514 (56)	264 (56)
Age (years)		
18-34	232 (25)	98 (21)
35-44	260 (29)	118 (25)
45-65	418 (46)	252 (54)
Marital status		
Married/living with a partner	498 (55)	264 (56)
Single/widowed/divorced	413 (45)	204 (44)
Ethnicity		
Native Dutch	617 (68)	344 (73)
Non-native[a]	294 (32)	125 (27)
Education		
Low	448 (49)	238 (51)
High (medium and higher)	458 (51)	229 (49)
Health characteristics		
Perceived health		
Poor	387 (42)	182 (39)
Moderate	473 (51)	248 (52)
Good	69 (7)	44 (9)
Reason for sick listing		
Only mental distress/burn-out	203 (22)	116 (24)
Mental distress/burn-out and other psychological complaints[b]	338 (36)	161 (34)
Only other psychological complaints	391 (42)	199 (42)
Health complaints before reporting sick		
Yes	762 (82)	392 (83)
No	162 (18)	81 (17)
Work-related factors		
Type of worker		
Unemployed worker	475 (51)	251 (53)
Temporary agency/fixed-term contract worker	457 (49)	225 (47)

Table 2 Continued

Independent variables	Cohort at T1 *n* = 932 (%)	Cohort at T2 *n* = 476 (%)
RTW interventions		
Yes	542 (59)	285 (60)
No	383 (41)	188 (40)
Perceived RTW interventions by SSA		
Score 0-5	246 (33)	71 (22)
Score 6-10	491 (67)	251 (78)
Work status 18 months after reporting sick		
RTW (partial or full)	X	81 (18)
No RTW	X	382 (82)
RTW expectations		
Positive expectation of a full RTW		
Yes	363 (40)	141 (32)
No	542 (60)	294 (68)

n at T1 ranges from 737 to 932 due to missing values

n at T2 ranges from 322 to 476 due to missing values

[a] Non-natives: those born outside of the Netherlands or with at least one parent born outside of the Netherlands

[b] Workers sick-listed with other psychological problems may also have had mental distress/burn out

Prognostic factors at 10 months

The prognostic factors for sick-listed unemployed and temporary agency workers at 10 months (medium-term) for work participation at 18 months are presented in Table 5. The final analysis for prognostic factors at 10 months identified two prognostic factors for work participation: moderate-to-good perceived health (OR = 4.2) and positive full RTW expectation (OR = 1.7). At 10 months, 133 sick-listed unemployed and temporary agency workers had both moderate-to-good perceived health and a positive RTW expectation and 162 with both poor perceived health and a negative RTW expectation. The predicted chance for work participation at 18 months for the group with both positive prognostic factors at 10 months was 42, versus 9% for the group with both negative factors.

Table 3 Univariate associations for independent variables at 10 months (T1) and work participation at 18 months (T2) in a cohort of unemployed and temporary agency workers *(n = 476)*

Independent variables	OR	95% CI for OR	*P*
Demographic characteristics			
Female sex versus male	1.5	1.00 – 2.37	<0.05*
Age <45 year versus ≥45 yr	1.3	0.87 – 2.00	0.19*
Married/living with a partner versus single/widowed/divorced	1.0	0.63 – 1.46	0.83
Native versus non-native ethnicity	1.8	1.06 – 3.00	0.03*
High education versus low education	1.5	0.95 – 2.22	0.08*
Health characteristics			
Perceived moderate-to-good health versus poor health	4.9	2.95 – 8.27	<0.01*
Sick-listed with mental distress/burn-out versus other psychological complaints	1.1	0.67 – 1.74	0.76
No health complaints before reporting sick versus health complaints	1.7	0.99 – 2.78	0.06*
Work-related factors			
Temporary agency/fixed-term contract worker versus unemployed worker	1.6	1.04 – 2.42	0.03*
RTW interventions versus no RTW intervention	1.7	1.09 – 2.60	0.02*
Perceived RTW interventions by SSA, Scores 6-10 versus Scores 0-5	1.1	0.73 – 1.68	0.63
RTW expectations			
Positive expectation of a full RTW versus negative expectation	2.4	1.56 – 3.67	<0.01*

OR > 1 indicates a higher association with work participation (partial or full RTW or ability to work)

OR < 1 indicates a lower association with work participation

OR odds ratio; *CI* confidence interval

* Independent variables with associations for which $p < 0.20$ were selected for the multiple logistic regression analysis

Table 4 Univariate associations for independent variables at 18 months (T2) and work participation at 27 months (T3) in a cohort of unemployed and temporary agency workers *(n = 258)*

Independent variables	OR	95% CI for OR	*P*
Demographic characteristics			
Female sex versus male	1.8	0.98 – 3.37	0.05*
Age <45 year versus ≥45 yr	3.7	1.97 – 6.98	<0.01*
Married/living with a partner versus single/widowed/divorced	0.5	0.46 – 1.52	0.55
Native versus non-native ethnicity	1.2	0.59 – 2.46	0.61
High education versus low education	1.9	1.02 – 3.52	0.04*
Health characteristics			
Perceived moderate-to-good health versus poor health	2.7	1.30 – 5.75	<0.01*
Sick-listed with mental distress/burn-out versus other psychological complaints	0.9	0.43 – 1.68	0.65
Work-related factors			
Temporary agency/fixed-term contract worker versus unemployed worker	2.6	1.39 – 4.78	<0.01*
RTW interventions versus no RTW intervention	2.1	1.06 – 4.02	0.03*
Perceived RTW interventions by SSA, Scores 6-10 versus Scores 0-5	1.0	0.54 – 1.77	0.93
Work status 18 months after reporting sick, RTW (partial or full) versus no RTW	16.5	7.60 – 35.87	<0.01*
RTW expectations			
Positive expectation of a full RTW versus negative expectation	3.0	1.57 – 5.75	<0.01*

OR > 1 indicates a higher association with work participation (partial or full RTW)

OR < 1 indicates a lower association with work participation

OR odds ratio; *CI* confidence interval

* Independent variables with associations for which $p < 0.20$ were selected for the multiple logistic regression analysis

Table 5 Multiple logistic associations between independent variables and work participation in a cohort of unemployed and temporary agency workers

Independent variables (predictors)	Odds ratio	CI	*p* value
T1 → T2 Backward stepwise, final model at 18 months[a]			
Perceived health (moderate-to-good)	4.2	(2.43 – 7.20)	<0.01
Positive expectation of a full RTW	1.7	(1.08 – 2.71)	0.02
T2 → T3 Backward stepwise, final model at 27 months[b]			
Age <45 year	2.5	(1.10 – 5.70)	0.03
Work status at T2 (yes)	24.0	(8.37 – 69.20)	<0.01
Positive expectation of a full RTW	2.6	(1.12 – 5.86)	0.03

[a] Associations between independent variables at 10 months (T1) and work participation at 18 months (T2) *(n = 476)*

[b] Associations between independent variables at 18 months (T2) and work participation at 27 months (T3) *(n = 258)*

Prognostic factors at 18 months

The prognostic factors for sick-listed unemployed and temporary agency workers at 18 months (long-term) for work participation at 27 months are presented in Table 5. The final analysis for prognostic factors at 18 months identified three prognostic factors for work participation: age <45 years (OR = 2.5), work status at T2 (OR = 24.0), and positive full RTW expectation (OR = 2.6). At 18 months, 11 sick-listed unemployed and temporary agency workers were younger than 45 years, were working and had a positive RTW expectation. In contrast, 96 participants were 45 years or older, were not working and had a negative RTW expectation. The predicted chance for work participation at 27 months for the group that had all three positive prognostic factors at 18 months was 90, versus 6% for the group with all three negative factors.

Response analysis

There were no statistical differences between respondents and non-respondents with regard to the prognostic variables at 10 months: perceived health (p = 0.24), full RTW expectations (p = 0.28). Further there were no statistical differences between respondents and non-respondents with regard to the prognostic variables

Table 6 Demographic variables of respondents and non-respondents at 10 months (T1), 18 months (T2) and 27 months (T3) after reporting sick

Demographic variables	Cohort at T1, *(n = 932)*	Cohort at T2, *(n = 476)*		Cohort at T3, *(n = 258)*		Response analysis T1-T2 *(Wald statistics)*	Response analysis T2-T3 *(Wald Statistics)*
		Resp[a]	*Non-resp*[b]	*Resp*	*Non-resp*		
Sex							
Male	398	205	193	122	86	$p = 0.98$	$p = 0.01$
Female	514	264	250	133	134		
Age							
<45 years	492	216	276	101	115	$p < 0.01$	$p = 0.16$
≥45 years	418	252	166	152	106		
Marital status							
Married/living with a partner	498	264	234	152	115	$p = 0.63$	$p = 0.21$
Single/widowed/divorced	413	204	209	102	105		
Ethnicity							
Native Dutch	617	344	273	192	156	$p < 0.01$	$p = 0.65$
Non-native	294	125	169	62	65		
Education							
Low	448	238	210	125	118	$p = 0.73$	$p = 0.16$
High (MBO and higher)	458	229	229	128	102		

n at T1 ranges from 737 to 932 due to missing values
n at T2 ranges from 322 to 476 due to missing values
n at T3 ranges from 243 to 258 due to missing values
[a] Respondents
[b] Non-respondents

at 18 months: age (p = 0.16), work status at T2 (p = 0.37), full RTW expectations (p = 0.48). Table 6 presents the demographic variables and analysis of differences between the respondents and non-respondents. Although there were statistical significant differences for some demographic variables between the respondents and non-respondents, these differences do not have further implications because these variables did not remain as prognostic factors in the final model after multiple logistic regression analysis.

DISCUSSION

The purpose of this longitudinal cohort study was to identify prognostic factors for the future work participation of medium- and long-term sick-listed unemployed and temporary agency workers with psychological problems. Our study indicated that workers' own perceived moderate or good health and positive expectations of a full RTW at 10 months were prognostic factors for work participation at 18 months. Younger age (<45 year), working status at 18 months (part- or full-time) and positive expectations of a full RTW at 18 months were prognostic factors for work participation at 27 months.

This study is useful because we conducted three measurements over a long period (1.5 years), so we were able to identify prognostic factors for work participation at different stages of sickness absence. This strategy revealed that the prognostic factors and their relative importance differed for medium- and long-term sickness absence. Perceived health was the strongest prognostic factor in medium-term sickness absence, whereas being at work (work status) was the strongest prognostic factor in long-term sickness absence. Furthermore, we noticed that the relative importance of full RTW expectations as a prognostic factor for work participation increased from the medium- to long-term sickness absence measurement. When conducting sickness absence counseling, occupational and insurance physicians must be aware of the change of prognostic factors and their relative importance over the course of sickness absence so they can identify high-risk sick-listed workers at different stages. Furthermore, a lack of certain positive prognostic factors (e.g., perceived good health) can provide input for the sickness absence counseling or may help the direction of RTW interventions. The

practical value of the prognostic factors found in our study is clear from the 33% increased chance of work participation at 18 months when both positive prognostic factors (moderate or good perceived health and positive expectations for a full RTW) are present at 10 months. An 84% increase in the chance of work participation at 27 months was found when all three prognostic factors (age under 45 years, positive work status at T2 and positive expectations for a full RTW) were present at 18 months. However, only a small number of workers showed all three positive prognostic factors at 18 months.

To the best of our knowledge, no studies have attempted to investigate the association between prognostic factors and work participation for (long-term) sick-listed unemployed and temporary agency workers with psychological problems. Studies that have investigated the association between prognostic factors and work participation for sick-listed workers with both psychological and physical problems included only employed workers and focused mostly on the first year of sickness absence [13,14,18-22]. Our findings were in line with the prognostic factors reported in studies of employed workers with psychological and physical problems [13,20,21]. However, in contrast with these studies, we found that education, gender, health complaints before reporting sick (history of previous sickness absence) and RTW interventions were not prognostic factors for work participation for sick-listed unemployed and temporary agency workers after multiple logistic regression.

Although our study did not identify sickness absence counseling (RTW intervention) as a prognostic factor for work participation after multiple regression analysis, appropriate sickness absence counseling aimed at targeting the modifiable prognostic factors in high-risk sick-listed unemployed and temporary agency workers found in our study could help improve work participation. Perhaps the interventions used in this study were not effective for this vulnerable group because they did not target the prognostic factors found in our study. Whether sickness absence counselling aimed at targeting the modifiable prognostic factors in high-risk sick-listed unemployed and temporary agency workers found in our study actually leads to greater work participation needs to be evaluated in further research. In addition to the focus on high-risk sick-listed unemployed and temporary

agency workers, sick-listed persons with existing favorable prognostic factors for work participation should be encouraged and advised to seek help to realize their potential for work participation. Furthermore, special attention should be paid to work participation (partial or full RTW) as a strong prognostic factor for future work participation. Since this vulnerable group often cannot benefit from the positive effects of (part-time) work placement because no employment is available, it would be interesting to evaluate options for sick-listed unemployed and temporary agency workers to participate in the labor market as part of a reintegration program. This approach would hopefully lead to greater work participation. A final recommendation is to include the quality and sustainability of employment in future research.

CONCLUSION

We conclude that individuals' own appraisal and assessment of their health (perceived health and RTW expectation), along with age and partial or full RTW (work status), are prognostic factors for the work participation of sick-listed unemployed and temporary agency workers with psychological problems. Furthermore, the relative importance of prognostic factors could change during long-term sickness absence. The factors found in this study may help to identify high-risk sick-listed unemployed and temporary agency workers 10 and 18 months after reporting sick. Because data on these prognostic factors are easy to collect or are already available to occupational or insurance physicians, the outcome of this study could provide input for targeted interventions aimed at sickness absence counseling and may improve work participation.

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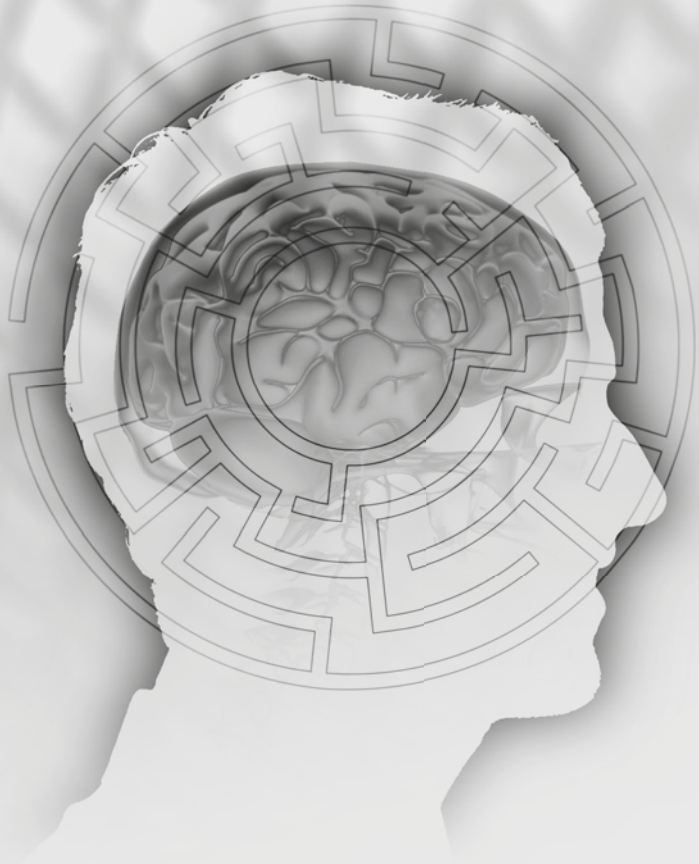

CHAPTER 3

Perspectives of unemployed workers with psychological problems: barriers and solutions for return to work

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Submitted for publication.

ABSTRACT

Purpose

To evaluate the barriers and solutions for return-to-work (RTW) in the perspective of unemployed workers who are sick-listed due to psychological problems.

Methods

We conducted semi-structured interviews with 25 sick-listed unemployed workers with psychological problems. Qualitative data analysis was performed, using a process of identifying, coding and categorizing the patterns in data.

Results

All workers experienced multiple problems in different domains of life related to their disease, personal circumstances (e.g., divorced, debts) and their environment (e.g., labour market problems, issues with the social insurance agency). Workers differed in the way they perceived their RTW process and in the extent to which they were able to envision and implement the solutions for RTW, thereby resulting in three types of workers' attitude towards their own RTW process: (1) "frozen"; (2) "insightful though passive"; and (3) "action mode".

Conclusions

We conclude that the sick-listed unemployed workers with psychological problems have to deal with multiple problems, of which medical problems are only a part. These workers need help aimed at their way of coping according to one of three types of workers' characteristics. Furthermore, they need specific help organizing and structuring their problems, getting their life back on track, and in finding employment.

INTRODUCTION

In recent decades, sick leave due to psychological problems, such as depression, anxiety, and stress-related disorders has increased considerably worldwide. Psychological problems are nowadays the major cause of absenteeism (40%) and work disability (including disability pension) in many high-income countries, causing considerable economic burden to society [1-3]. Sick leave due to psychological problems – both severe [4,5] and less severe [6-8] – is associated with prolonged work disability. Only 50% of those off work for six months or more due to these problems actually return to work [9].

Workers without a permanent employment contract (non-permanent workers), such as the unemployed, temporary agency workers and fixed-term contract workers, represent a vulnerable group within the working population. They are at even greater risk for work disability due to psychological problems than the general working population [10-13]. These non-permanent workers are characterized by a poor mental health status and low socio-economic position [11,12,14]. Further, they have less job security, a lower education and are more often of non-native background compared to workers with a permanent employment contract (employed workers) [11,12,14].

Compared to sick-listed employed workers, sick-listed non-permanent workers perceive their health status more negatively and encounter more psychosocial barriers (such as personal problems, debts, addiction, legal proceedings, care issues) for their return-to-work (RTW) [11,12,14-16]. Moreover, these workers experience a greater distance to the labour market compared to sick-listed employed workers, because there is no workplace to return to when sick-listed [14]. Furthermore, previous research has shown that the RTW expectations of workers are a predictor of future work participation [17,18].

Considering the growing rate of non-permanent workers [19,20] and the rate of sick leave due to psychological problems, we questioned why little attention has been paid in developing effective RTW interventions for these workers [21] using patient perspectives. A review of RTW intervention studies for the unemployed

shows several large programs in USA, Finland and Austria that have attempted to influence RTW outcomes using different intervention components (such as job search skills, personal development, problem-solving skills, group-based job training) with unsatisfactory results [21].

There are no studies among sick-listed unemployed workers with psychological problems that have attempted to identify the RTW perspective of these workers. Qualitative research can help expand our understanding of what kinds of perspectives of these workers play a role in returning to work. Knowledge about the background of the RTW perspectives of these workers can shed light on why these workers are not returning to work and why many attempts, incentives and interventions have failed to produce much success to date. This knowledge can be helpful to optimize the sickness absence counselling and further tailor RTW interventions to the needs of the sick-listed workers with psychological problems.

Therefore the aim of this qualitative study was to evaluate the barriers and solutions for RTW in the perspective of unemployed workers who are sick-listed due to psychological problems.

METHODS

Design

In this qualitative study, semi-structured interviews were conducted to explore workers' perspective regarding RTW. We used the consolidated criteria for reporting qualitative research (COREQ) as a point of reference [22].

Participants

Using purposive sampling, we selected the participants from two offices of the Dutch Social Security Agency (SSA), in the eastern part of the Netherlands. The inclusion criteria were: (1) being unemployed; (2) between 18 and 65 years of age; (3) recently sick-listed (less than four weeks); and (4) having psychological problems/complaints as the main reason for a sickness benefit claim. As RTW expectations of workers have been shown to predict work participation [17,18], we maximized variation of perspectives by recruiting workers with both a positive

(expected RTW within three months) or a negative (expected RTW after three months) RTW expectation.

Eligible participants received written information from the SSA concerning the aims and procedures of the study at their home address. The anonymity and confidentiality of the participants was emphasized. Once participants had decided to participate in the study, an appointment for an interview was made.

All participants provided written, informed consent to participate in the study. The Medical Ethics Committee of the Academic Medical Center (AMC), University of Amsterdam, declared that the study design did not require comprehensive ethical review, as the Medical Research Involving Human Subjects Act does not apply to this study [23].

Procedure

Data collection

Data were collected between June 2012-January 2013 through semi-structured, individual, face-to-face interviews using open-ended questions and a topic guide. Each interview lasted between 45 and 75 minutes and was conducted by the first author, an experienced male insurance physician (48 years) with extensive knowledge on sickness absence counselling of sick-listed workers and significant interviewing experience. The interviewer used techniques of paraphrasing, summarization, and clarification to gain a full understanding of the points made during the interviews. The location (participants' home address or nearest SSA office) and time of the interview were chosen by the participants. Prior to the interview, the purpose of the study was explained. All interviews were tape-recorded with permission from the participants. The following interview topics were addressed: (1) RTW expectation; (2) cause and scope of problems of the sick-listed worker; (3) barriers hampering RTW; and (4) perceived solutions to overcome the barrier or barriers to RTW.

The sample size was directed by data saturation [24], which refers to the point at which no new information is being generated or collected, given the aim of the study. Twenty interviews were initially planned and the inclusion of respondents continued until data saturation was achieved.

Data analysis

The analysis was performed in phases. The first phase of the analysis consisted of verbatim transcription of the recorded interviews. These transcripts were then used to explore and reflect workers' personal perceptions and beliefs. In the second phase – the open coding phase – every text fragment relevant to the research question was assigned a code. To increase reliability and truth value, three authors (SA, KN, JH) independently performed coding for all interviews, followed by comparisons and a negotiated outcome between the three authors. In the axial coding phase, relations between codes and large concepts were sought, including patterns in the RTW process of the included workers. Finally, in the selective coding phase, themes were organized to formulate an answer to the research question. The content, descriptions, titles and final results were checked and discussed by the research team in each phase. To support the analysis, we used the software program MAXQDA (VERBI Software, Berlin, Germany, 2012).

RESULTS

After describing the patients' characteristics, we present the perceived barriers and solutions with regard to RTW by the workers and two themes that were identified after analysis of the data: interaction of multiple problems (barriers) and workers' attitudes towards their own RTW process (solutions).

Participants characteristics

Twenty-five unemployed workers participated in the study. The age of the workers ranged from 22 to 59 years, with an average of 43 years. Eight workers were male. Eleven workers expected an RTW within three months (positive RTW expectation) and fourteen workers expected an RTW after three months (negative RTW expectation). For all 25 participants, the main reason for reporting sick was having psychological problems.

Barriers for RTW

The participants expressed several barriers for their RTW. We summarized these barriers in six categories: (1) a current decreased perceived ability to work due to mental problems (including psychosocial problems/traumatic experiences) and

physical health status; (2) labour market problems; (3) inadequate (medical) treatment; (4) issues related to the social insurance agency; (5) personal characteristics and beliefs; and (6) personal circumstances. See Table 1 for an overview of barriers for RTW.

Solutions for RTW

The participants indicated various solutions for their RTW. We summarized these solutions in six categories: (1) appropriate treatment; (2) recovery of complaints/gradual RTW; (3) type of work and preconditions; (4) beliefs and being active; (5) support/communication with the social insurance agency; and (6) adequate coaching and training. See Table 2 for an overview of solutions for RTW.

Interaction of multiple problems

One theme regarding barriers for RTW for the unemployed workers emerged from the analysis: interaction of multiple problems. Participants experience challenges in different domains of life, related to their disease, personal circumstances or their environment. Most workers face a multitude of problems on different levels. While they may be dealing with one problem at one step, there are usually one or more other problems that they have had to face. All participants expressed psychosocial problems and/or traumatic experiences, whereby almost every participant had two or more psychosocial problems. The following multiple problems (including psychosocial problems) played a prominent role: personal problems such as divorce, care problems and debts, negative work experiences such as job loss or problems in the last workplace, financial problems, traumatic experiences such as the death of loved ones, relatives or acquaintances, and having concurrent medical problems such as musculoskeletal complaints. Participants stated that as a result of their job loss and unemployment they felt insecure, and burdened by being dependant on welfare, faced (more) financial problems and experienced problems in dealing with the social insurance agency. Because of the interaction of multiple problems, participants often reported that they saw no (single) solution for RTW. A worker with multiple problems on different levels (e.g., loss of job, divorced, forced home sale, death of relatives, financial problems, bringing up a disabled daughter, mental and physical complaints) stated his barriers for RTW as follows:

Table 1 Overview of the workers' perceived barriers for return to work (*n = 25*)

Barriers for Return to Work
1. Current perceived decreased ability to work due to mental and physical health status (including psychosocial problems and/or traumatic experiences) • Mild mental complaints to severe psychological problems e.g., major depressive symptoms, fatigue, reduced concentration, stress, sleeping problems • Physical complaints e.g., musculoskeletal complaints, visual impairment, Lyme disease, gynecological problems and intestinal problems • Psychosocial problems and/or traumatic experiences e.g., personal problems such as divorce and care problems, financial problems, negative work experiences, death of loved ones, relatives or acquaintances
2. Labour market problems • Lack of available jobs • Reduced chance of getting a job because of their sickness absence or lack of job experience • Absence of job perspective because of the unavailability of jobs • Finding an employer who is willing to employ workers with impairments
3. Inadequate (medical) treatment • Due to long waiting lists for psychiatric treatment • Lack of intensive psychiatric/psychological help • Health insurance only covering up to five psychological treatment sessions • Treatment curative care is not focused on return to work
4. Issues related to the social insurance agency • Poor communication • No personal contact with a professional of the social insurance agency • Perceived bureaucracy • Requirement to possess computer skills and internet access to make contact • Inadequate support (e.g., no help with job search or writing a letter of application, training program does not address the need) or rules that do not fit their situation • Unclear procedures and lack of information when sick-listed
5. Personal characteristics and beliefs • Low education • High age • Lack of required training • Difficulties working with an employer • Strong need to maintain current balance • Non-native origin • Wearing a headscarf

Table 1 Continued

Barriers for Return to Work
6. Personal circumstances • Financial problems   • Not able to follow education, visit the gym, buy a computer or pay a ticket for public transport to get to the workplace • Lack of childcare facilities • Fast return to work discouraged by the general practitioner or family

"I visit my therapist twice a week to help me cope with my divorce, to deal with a loss, and now I've lost my job for the third time, all that plays a role …… I forget a lot of things ……and so I make mistakes ……if you're operating a forklift truck you need to be able to concentrate so you don't make mistakes ……I have back problems. I'm in pain every day, I need varied work ……Financial problems. You can't even afford to use public transport or anything else for that matter, they've impounded my car. My bank account has been frozen. They've set the gas, water, and electricity to a minimum level……It eats you up, and you get even more depressed and then sometimes you just can't take it anymore ……divorce and dismissals, a reorganization……I've got a disabled daughter who needs a lot of care ……and it's no small matter when your father dies, your mother dies, your father-in-law dies, your mother-in-law dies, all in the space of six or seven years."(Participant 12).

Workers' attitudes towards their own RTW process

Looking at the participant trajectories and comparing similarities, one theme regarding solutions for RTW emerged from the analysis: workers' attitudes towards their own RTW process. We found that workers differed in the way they perceived their RTW process and in the extent to which they were able to envision and implement the solutions for RTW. The following three types of workers' attitude towards their own RTW process can be distinguished: (1) "frozen": orientation/focusing on problems; (2) "insightful though passive": orientation on solutions; and (3) "action mode": (orientation on) application of solutions.

Table 2 Overview of the workers' perceived solutions for return to work *(n = 25)*

Solutions for Return to Work
1. Appropriate treatment • Treatment by medical doctor, psychologist, psychotherapist or social care worker • Hypnosis • Cognitive behavioural therapy • Medication
2. Recovery from complaints/gradually return to work • Recovery from complaints (e.g., getting more sleep and regaining control) • Gradual return to work • Gradual return to work in combination with building up a social life • Getting rhythm and structure e.g., due to gradual return to work or internship
3. Type of work and preconditions • Adapted work or workplace • Work that suits the worker • Work that is fun and exciting • Good availability of work • Preconditions such as transport to the workplace or possession of a car
4. Beliefs and being active • Want to work as soon as possible, to get a normal daily rhythm, to come out of isolation, to be among people again • Stay positive and did not sit back • Volunteer work • Being active such as visiting the gym, riding a bike, walking in the countryside or with a group with the same problems and doing jobs at home • Some participants stated that they needed rest and structure
5. Support/communication with the social insurance agency • Better communication with and help and support of the social insurance agency • Personal contact in an early stage of sick leave and more frequent contact to address the questions and problems of the worker • Help of a coach with guidance and (a plan for) return to work, searching for the right job, mediation and writing letters of application

6. Adequate coaching and training
• Help and coaching/guidance of
  • Agencies
  • Vocational rehabilitation agencies
  • Budget coaches
  • The family
• Including
  • Training for other job skills
  • Guidance to another job
  • Social support at home

1. "Frozen" workers

These workers made statements to the effect that they could not do much, wanted to be left alone, were not able to work or were ready for work yet and did not want to be bothered with it. They were mainly focused on their problems and barriers for RTW. Some workers expressed no ideas regarding barriers for RTW. Solutions for RTW were not verbally expressed nor did these workers request any help regarding RTW. Some participants in this category also expressed that the solution for RTW is to do nothing, help was not necessary or that they had no idea what the solution is. Seven "frozen" workers were identified and all of them had a negative RTW expectation. When asked by the interviewer what could help to RTW, one worker stated:

> *"I can't do anything for the moment, let's just see how things go."* (Participant 15). Another participant stated: *"I really don't have any idea, no idea at all, at the moment I can't see it happening at all, I can't even bring myself to think about it." (Participant 13).*

Participant 4 stated:

> *"Just give me a pill that will make me fit again … If they can make me better, then I'd start working. But considering I don't feel ready to work again, that's not going to happen."*

One worker described the decreased perceived ability to work as:

> *"I can't take the work pressure anymore. I used to be able to do 25 things at once and now I have to be satisfied that I can do two things at once ……I can't make any choices. You just can't think clearly. You've got too much on your mind." (Participant 7).*

2. "Insightful though passive" workers

Workers in this stage showed insight in their problems and understood barriers for RTW. They often had plans and ideas about what they had to do or what is needed to achieve RTW and expressed a desire to work. However, these workers did not yet execute their plans or ideas regarding RTW and its solutions. Nevertheless, these participants said that they wanted to be helped with their RTW. Some workers stated that they felt unsupported by the social insurance agency when they expressed that they wanted to implement their ideas for RTW.

They also stated that some rules of the social insurance agency impede their RTW, because some activities which could enable RTW, such as gradual RTW or an internship, were prohibited during the sickness benefit claim period. One worker emphasized this rule by stating:

> *"It's the obligation, whether you're actually sick or not. There's very little possible in between. I've indicated that it would help me get back into the employment process, even if it's an internship for just one day a week somewhere. That's not possible. I mean, the intention is that I'm back at work soon and I think that it lowers the threshold for me, and that it helps me get back into the swing of normal life, because that's not what I'm doing at the moment and I miss that a lot . But it's either one or the other, and that's a pity." (Participant 23).*

Furthermore, most of these workers complained that barriers for RTW included poor communication with the social insurance agency, the difficulty of getting into personal contact with the social insurance agency, and unclear procedures concerning what is allowed during the sickness benefit period. One participant expressed the poor communication by stating:

> *"I find that the way you currently really don't have any contact with the social insurance agency but that everything is done via internet, I can't get on with that at all. I think it's very bad that you don't get to see anybody, or speak to anybody, so you don't really have a work coach with whom you make agreements." (Participant 24).*

Fifteen 'insightful though passive" workers were identified, of which eight had a positive RTW expectation and seven a negative RTW expectation.

3. Workers in "action mode"

These workers verbalized a positive attitude regarding work and wanted to RTW as soon as possible. They stated their problems and barriers for RTW, had some ideas concerning how to address these problems and overcome barriers for RTW, and were actually searching for ways to implement the solutions (to overcome barriers) for RTW. These workers emphasized that they could use all the help of the social insurance agency to help them with their RTW process and to execute

their ideas to address their problems or obstacles for RTW. Most workers stated that they experienced a lack of support from the social insurance agency, which impeded their recovery for RTW. Furthermore, these workers had positive beliefs regarding RTW and an active life. Three workers were identified as being in the "action mode", and all of them had a positive RTW expectation. A worker in the "action mode" made the following statements:

> *"I want to get back to work as soon as possible , because the longer it goes on like this, the more difficult it will get to return to work ……I really want to get back to work again, during the day. I would so love to have everything back to normal as soon as possible ……I'm a pretty positive individual myself …… I'm not the type to let my head hang and start thinking, well my situation's really pretty bad.'' (Participant 20).*

DISCUSSION

The aim of this qualitative study was to evaluate the barriers and solutions for RTW in the perspective of unemployed workers that were sick-listed due to psychological problems. Our study indicated that in addition to medical problems impeding RTW, workers attribute many non-medical problems as being barriers for RTW. Workers faced multiple problems in different domains of life. All 25 participants expressed several psychosocial problems and/or traumatic experiences. Finally we identified three types of workers' attitude towards their own RTW process reflecting differences in workers' abilities to envision and implement steps towards RTW: (1) "frozen"; (2) "insightful though passive"; and (3) "action mode".

The strength of this study is that we conducted 25 interviews with workers who had either a positive or a negative RTW expectation. This way we explored the breadth of perspectives among our participants and achieved a maximized variation of perspectives and data saturation regarding their RTW perspective. The findings of this study show that an important characteristic of the sick-listed unemployed workers is that they had to deal with multiple problems in different domains of life related to their disease, personal circumstances or their environment. These multiple problems were often perceived as being severe by

participants, where one problem often leads to other problems. Because of this, some workers reported ending up in a downward spiral, thereby losing the perspective of improvement or work. Multiple problems resulted in that a single solution is often not enough to address barriers for RTW. Sick-listed workers with psychological problems including cognitive problems often cannot oversee how or in which order these multiple problems needed to be addressed. Therefore they need support or coaching to achieve an overview and obtain insight and a priority plan in addressing the barriers and implementing the solutions for RTW. Besides the consequences of their sickness, and in line with findings in other studies, we found that most workers also suffered from the consequences of unemployment such as stress, financial debt, diminished social status, reduced self-esteem and feelings of guilt [16,25,26], emphasizing a need for support in problem-solving in different domains of life and health.

The major finding of this study is that we identified three types of workers' attitude towards their own RTW process. The distinction between these three types was based on whether workers had insight into their problems, had solutions to these problems, and whether they actually implemented the solutions to these problems. The characteristics of the three types of workers' attitude towards their own RTW process shows similarities with the characteristics of the three stages of readiness for RTW described by Lam et al. [27]. However, the stage of change model of Lam describes behavioural changes over time in one person. It can be argued that the identified characteristics of worker's attitudes in this study may also represent possible changes over time, even though all workers were interviewed at the start of a sick leave episode. Our design does not allow for inferences about whether the identified workers' characteristics changes over time.

The worker's RTW perspective seems to be associated with the type of workers' attitude towards their own RTW process, as all the "frozen" workers had a negative RTW expectation and all the workers in the "action mode" had a positive RTW expectation. When guiding sick-listed unemployed workers with psychological problems, it is advised to take into account the type of workers' attitude towards their own RTW process, so that the RTW intervention can be

tailored to the need of the worker. The RTW intervention of "frozen" workers who had no insight into solutions for RTW and a negative RTW expectation could focus on their negative cognitions regarding RTW for example, whereby workers in the "action mode" need a realistic action plan or final push to get back into the workforce.

In this study, most of the workers (15) had the RTW process of "insightful though passive" type of workers. The gap between having solutions and intentions for RTW and implementing these solutions/intentions has been found in several qualitative studies of employed workers with mental health problems and was interpreted as an intention-behaviour gap [28,29]. The gap between intentions for RTW and implementing these could result in stagnation of the RTW process, relapse and recurring sick leave [29,30,31]. To reduce this gap, it has been advised that RTW interventions should not only focus on the individual e.g., by enhancing coping strategies and reducing perfectionism, but also on the (future) workplace, and facilitate the social integration of the returned worker. This emphasizes the need and role of a guidance coach to help the unemployed workers with their RTW process, to reduce the intention-behaviour gap and to prevent stagnation of the RTW process. In our study, many participants specified adequate guidance and help of a (vocational) coach as an important solution for their RTW. In order to prevent stagnation, the personal contact with the coach must be in an early stage of sick leave. According to the workers, the help of a coach is also important to create workplaces or internships to facilitate gradual RTW. In the literature, gradual RTW is considered as an important factor to facilitate RTW [28].

Our findings may not have captured the perspectives of all non-permanent workers, since we did not include temporary agency and fixed-term contract workers. Future qualitative research on barriers and solutions for RTW should also focus on the perspective of temporary agency and fixed-term contract workers to gain a better understanding of the RTW perspective of all non-permanent workers. Whether RTW interventions tailored to the type of workers' attitude towards their own RTW process and workers' RTW perspective combined with adequate guidance and support of a (vocational) coach actually leads to an increase in RTW needs to be evaluated in further research.

Furthermore, to gain insight into the complex RTW process of these workers with multiple problems over time, future qualitative research should also investigate the thoughts about the past and future (by conducting multiple interviews), as the RTW process should be seen as a continuous and coherent process where experiences of the past and present, and anticipation of the future are dynamically interrelated and affect success or failure of RTW [28]

CONCLUSION

We conclude that the sick-listed unemployed workers with psychological problems have to deal with multiple problems, of which medical problems are only a part. Besides interventions targeting the multiple problems of these workers, they need help aimed at their way of coping according to one of three types of workers' attitude towards their own RTW process. Furthermore, they need specific help organizing and structuring their problems, getting their life back on track, and in finding employment.

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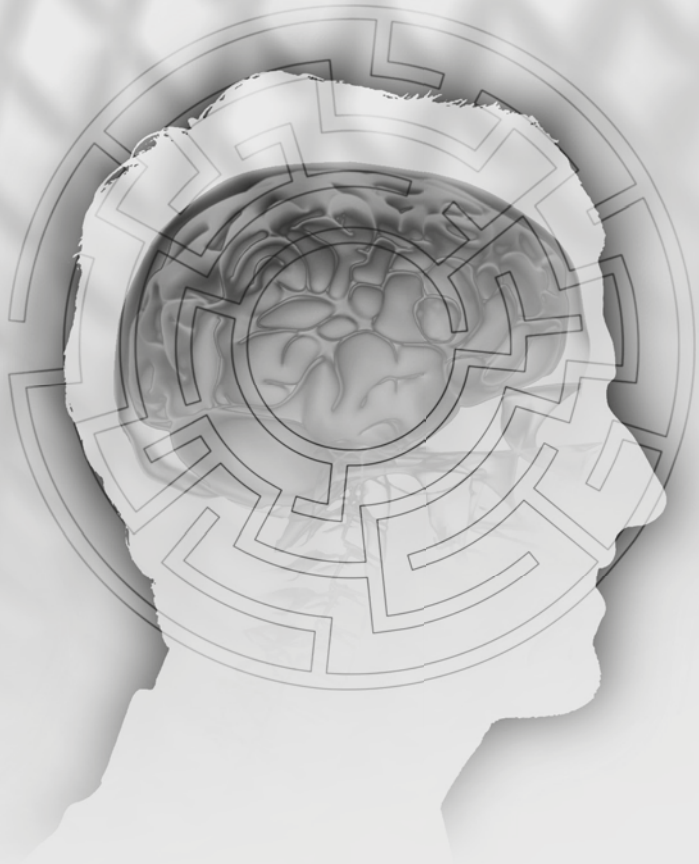

CHAPTER 4

Vocational Interventions for unemployed: effects on work participation and mental distress. A systematic review

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J Occup Rehabil. 2010; 20(1):1–13.

ABSTRACT

Introduction

Unemployment is a growing problem worldwide. Unemployment or job loss is one of the most stressful of life events and can lead to diminished social status, disturbed social role patterns, financial debt, reduced self-esteem and feelings of guilt. The purpose of this review was to determine the effectiveness of vocational interventions on work participation and mental distress for unemployed adults and to provide an overview of the characteristics of these interventions.

Methods

Medline, EMBASE and PsycINFO were systematically searched for studies published between 1990 and August 2008. Intervention studies aimed at work participation and helping with mental distress for the unemployed were included. Methodological quality of the included studies was assessed.

Results

Six articles based on five intervention studies, of which two randomized controlled trials, fulfilled all inclusion criteria. The methodological quality of the studies ranged from good to poor. All five interventions applied group training techniques aimed at promoting re-employment and/or improving mental health. The duration of the interventions varied from 1 week to 6 months. The interventions focused on acquiring job-search skills, maintaining paid work, personal development and preparedness against setbacks during the job-search process. Only one intervention study (randomized controlled trial) reported a significant effect on re-employment.

Conclusions

Based on our review, we conclude that there is weak evidence to support the use of vocational interventions to improve work participation and limited evidence to reduce mental distress for the unemployed. We recommend further development and evaluation of return to work intervention strategies for unemployed individuals.

INTRODUCTION

Unemployment is a growing social problem worldwide with serious financial consequences for the impacted individuals. Unemployment or job loss is one of the most stressful of life events and can lead to diminished social status, disturbed social role patterns, financial debt, reduced self-esteem and feelings of guilt [1]. Furthermore, authors report poorer mental health among the unemployed compared with employed persons [2-5]. A substantial proportion of individuals who become unemployed will experience or develop stress-related disorders or "mental distress" [1,6-8]. This may increase the distance to the labor market and begin a cycle leading to further health deterioration and longer time out of work. Likewise mental distress can also lead to job loss, so the mental distress of unemployed is an important factor to consider. In this review we focused on vocational intervention for the unemployed and the effect of these interventions on work participation and mental distress.

There is no uniform or agreed-upon definition for mental distress in the literature. Here, we classify minor psychological problems with emotional or psychological distress as mental distress. Psychological problems related to occupational stress are also reported in the literature as emotional distress or stress-related disorders [9].

It would be interesting to evaluate which components or intervention strategies are used in re-employment programs targeting unemployed workers, and whether any vocational counseling or mental health component is part of these programs. If there were effective interventions aimed at work participation and mental distress for unemployed persons, it would be possible to reintegrate them into the workforce and to counteract negative mental health consequences of unemployment. However, there is little known about the effectiveness of work participation interventions used for unemployed individuals or what the effect of these interventions is on mental distress.

Studies concerning work-related mental distress have been published, but research in the field of re-integration in relation to unemployment and mental distress is lacking. The purpose of this literature study was to answer the following questions:

(1) what is the effect of vocational interventions on work participation and mental distress for unemployed; and (2) what are the characteristics of those interventions?

METHODS

Identification of studies

We systematically searched the literature of biomedical and psychological databases (Medline, EMBASE and PsycINFO) from 1990 to August 2008. Combinations of search terms on unemployment, mental distress and sick leave were used to identify potentially relevant articles. When available, subject headings such as MeSH terms in Medline were used, in addition to free text (see "Appendix" for Medline, EMBASE and PsycINFO search terms).

Selection of studies

One reviewer (SA) selected studies on the basis of title and abstract, among those published in English, German, Dutch or French. Potentially relevant studies were included if they described intervention studies with respect to return to work for unemployed subjects with mental distress or minor psychological problems. The selection was repeated by a second reviewer on a random sample of 100 studies. The definitive selection of articles was made on the basis of review of full text articles by two independent reviewers using the following inclusion criteria: (1) participants were unemployed and between 18 and 65 years old; (2) presence of mental distress complaints or distress was measured pre- and post-intervention; (3) the study design used was a randomized controlled trial (RCT), controlled clinical trial, pre-post study (longitudinal follow up) or case series; (4) the intervention was aimed at return to work, work resumption, job application and/or improved functioning (excluding drug trials as primary intervention). References of selected articles were screened for additional relevant publications. After selection, reviewers met to decide on definitive selection of articles; in the case of disagreement, a third reviewer (JS) made the decision.

Assessment of methodological quality and analysis

Methodological quality was independently evaluated by two reviewers (SA and JH or JS or MF) using the validated Downs and Black instrument [10], a 27-question

checklist for assessing the methodological quality of both randomized controlled trials (RCTs) and nonrandomized studies (Table 1). Disagreement was resolved by consensus between two reviewers. The highest possible score is 28 for RCTs and 25 for nonrandomized studies. Downs and Black score ranges (range 1–28) were grouped into the following four quality levels: excellent (26-28), good (20-25), fair (15-19), and poor (14 or less). Using these methodological quality scores, the corresponding level of evidence was scored as described by Foley et al. (Table 2) [11]: level 1a (very strong), level 1b (strong), level 2a (moderate), level 2b (limited), level 2c (weak), level 3 (consensus) and level 4 (conflicting). For the best evidence synthesis we used the following rules adapted from van Tulder et al. [12] and de Croon et al. [13]: (1) if there are four or more studies, the statistically significant findings of 75% or more of the studies in the same direction were taken into account; (2) if there are three studies, the statistically significant findings of at least two studies in the same direction were taken into account; (3) if there are two studies, the statistically significant findings of both studies in the same direction were taken into account; (4) if there is one study, the statistically significant findings were taken into account.

Data extraction

Data were abstracted from the included articles by one reviewer (SA) and checked for accuracy by the other authors. Disagreement in data extraction between authors was resolved by consensus. Relevant information was extracted into a summary table (Table 3). The extracted data included first author, year and country of study, design, participants, description of intervention(s), follow-up, outcomes and effect of the intervention.

Table 1 Checklist for assessment of methodological quality

	Score
Reporting	
1. Is hypothesis clearly described?	1
2. Is main outcome clearly described?	1
3. Are patient characteristics clearly described?	1
4. Are interventions clearly described?	1
5. Are distributions of co-founders clearly described?	2
6. Are main findings clearly described?	1
7. Estimates of random variability in data for main outcome?	1
8. Have important adverse events been reported?	1
9. Have characteristics of patients lost to follow-up been described?	1
10. Have actual probabilities been reported?	1
External validity	
11. Subjects asked to participate representative of population?	1
12. Subjects prepared to participate representative of population?	1
13. Were facilities representative of treatment of majority?	1
Internal validity – bias	
14. Was attempt made to blind subjects to intervention?	1
15. Was attempt made to blind assessors to main outcome?	1
16. If results were based on data dredging, this was made clear	1
17. Analyses adjust for length of follow-up	1
18. Appropriate statistical tests were used	1
19. Was compliance to intervention reliable?	1
20. Were main outcome measures accurate?	1
Internal validity – confounding	
21. Were patients recruited from the same population?	1
22. Were patients recruited over same period?	1
23. Were subjects randomized into treatment groups?	1
24. Was randomization concealed until recruitment was complete?	1
25. Were there adequate adjustments for confounding factors?	1
26. Were losses to follow-up taken into account?	1
Power	
27. Were there power calculations?	1
Total	28

Table 2 Strength of evidence levels

Level	Supporting evidence
1a (Very strong)	2 ≥ Study of excellent quality
1b (Strong)	1 ≥ Study of excellent quality
2a (Moderate)	2 ≥ Studies of good quality
2b (Limited)	1 ≥ Study of good quality
2c (Weak)	1 ≥ Study of fair or poor quality
3 (Consensus)	In the absence of evidence, agreement by a group of experts on the appropriate course of treatment
4 (Conflicting)	Disagreement between findings of studies [a]

[a] Disagreement between the findings of at least 2 RCTs, or where RCTs are not available between 2 nonrandomized trials. Where there were 4 or more RCTs and the results of only 1 were conflicting, the conclusion was based on the results of most of the studies, unless the study with conflicting results was of higher quality

RESULTS

Retrieved studies

The electronic search resulted in 4,736 citations, of which 29 articles were considered to be potentially eligible based on title and abstract. Most of the other publications were excluded because they were not related to unemployment and mental distress or minor psychological problems. Reviewing the 29 selected articles in full identified six articles that fulfilled all inclusion criteria. The six articles were based on five intervention studies, as two publications included the same data [14,15]. The five intervention studies included two RCTs [14,16], one non-randomized controlled trial [17], and two longitudinal studies with pre- and post-test measurement [18,19].

Table 3 Summary of studies included in this review

Author	Design/ quality score	Sample size	Participants
Creed (1998) Australia	Non–randomized controlled trial Score 19 Quality; fair	*N* = 133 at T1 *E* (exp.) = 62 at T1 *C* (contr.) = 71 at T1	The 133 participants represent a broad sample of metropolitan-based unemployed people who were registered for work with the national employment agency in Australia and were continuously unemployed for at least 6 months. Experimental and control participants met all course criteria Experimental group were participants who attended four training courses in metropolitan Brisbane Controls were waiting- list unemployed individuals who were eligible for training programs, and were recruited from course information sessions given at the employment agency (in the same area where the training occurred) Unemployed: at least 6 months, mean not mentioned Mean age: *E*: 33 years; *C:* 33 years Male: *E*: 52%; *C*: 56% Duration previous job: not mentioned Psychological distress GHQ- 12 mean score: T1: *E* 13.85 *C* 17.27 Distress higher in control group, difference significant (P = .01), however means for both are in the pathological range

Intervention	Control	Outcome/ measurements	Results
"Skillshare" work-preparation program (combination of occupational skills training and personal development) aimed to provide unemployed participants necessary skills to obtain and maintain paid work Duration: 4 to 7 weeks full-time Training: provided by Skillshare centre (in Australia). Background trainers not mentioned Group training	Controls were waiting-list unemployed individuals who were eligible for training programs	*Primary outcome* Employment status (not specified) *Secondary outcome* Psychological distress Psychological distress symptoms were measured with the 12- item version of the General Health Questionnaire (GHQ- 12) Score range 0–36 T1 = first day of the course; controls got the 1st questionnaire personally T2 = last day of the course; controls got the 2nd questionnaire by mail T3 = 3 months after the course; controls got the 3rd questionnaire by mail (response exp. group 63% of T1, control group 73% of T1)	*Primary results* Employment status T3: E 62% unemployed; *C* 67% unemployed; Difference not significant *(P* > .05) *Secondary results* Psychological distress T2: *E* 10.47 (mean score); *C* 15.80 Difference remains significant *(P* < .01) Exp. group improve between T1 and T2 *(P* < .05) T3: *E* 12.9 (mean score); *C* 15.3 Difference not significant (*P* not mentioned)

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
Vinokur (1995) USA	RCT Score 18 Quality; fair	*N* = 1,801 at T1 *E* (exp.) = 1,249 at T1 *C* (contr.) = 552 at T1 *High risk* respondents (*N* = 715): 32% in *E*, 68% in *C* *Low risk* respondents (*N* = 1,086): 70% in *E* 30% in *C* Risk score index = score for poor mental health (*low risk and high risk)* *High risk* depends on: 1. Higher depression (symptoms) score 2. Higher financial strain 3. Lower assertiveness score	Participants screened from 4 offices of Michigan Employment Security Commission, were <13 weeks unemployed and has no significant depression (Hopkins symptom checklist) Unemployed: mean = 4.11 weeks (SD = 3.8) Mean age: 36.2 years (SD = 10.38) Male: 45% Duration previous job: 3.85 years (SD = 5.01) Psychological distress T1: results not presented[a]

Intervention	Control	Outcome/ measurements	Results
JOBS II intervention focused on enhancing the sense of mastery through acquisition of job search and problem-solving skills and decision-making group processes, and on preparedness against setbacks. JOBS II was intended to prevent poor mental health and promote high quality reemployment Of the 1,249 (T1) study participants who returned the pre-test questionnaire only 54% showed up for intervention Duration: five 4-h group sessions during the morning of a 1-week period	Controls received a booklet briefly by mail describing job-search methods and tips equivalent to three single spaced pages of text. Useful, but extremely brief in comparison, for example, to self-help books available on job-search	*Primary outcome* 1. Employment status. (reemployment defined as working at least 20 h a week) 2. Functioning (role and emotional functioning) Role and emotional functioning was measured with a 15-item index (instrument and measurements were not specified) *Secondary outcome* Psychological distress Distress symptoms were measured with an 18-item index (instrument and measurements were not specified) T0 = randomization (computer)	*Primary results 1* Employment status T2: *E low risk* 40% reemployed *C low risk* 35% reemployed T2: *E high risk* 44% reemployed *C high risk* 35% reemployed Reemployment significantly higher in experimental *(both low- and high risk)* vs. control group ($P < .05$) T3: *E high risk* 62% reemployed *C high risk* 54% reemployed Difference significant *($P < .05$)* T3: *E low risk* 63% reemployed C *low risk* 67% reemployed

Table 3 Continued

Author	Design/ quality score	Sample size	Participants

Intervention	Control	Outcome/ measurements	Results
Training: 3 pairs of male and female co-trainers (social workers, educational counselors, unemployed high school teachers); trainers got a training for 240 h Group training (12–22 participants), *M* = 15.6		T1 = returning pretest questionnaire T2 = 2 month posttest (response 80% of T1) T3 = 6-month posttest (response 87% of T1)	Difference not significant *(P* = 0.44) *Primary results 2* Role and emotional functioning. Results not presented[a] T3: levels of functioning higher in *high risk* experimental group vs. control group (*P* < .01) T3: mean levels of functioning *low risks* experimental group vs. control group; no data available *Secondary results* Psychological distress Results not presented[a] T3: distress symptoms lower in *high risk* experimental group vs. control group (*P* < .01) T3: mean severity of distress symptoms *low risks* experimental group vs. control group; no data available

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
Vinokur (2000) USA	Follow up of Vinokur (1995) with a Questionnaire	See Vinokur (1995) *N* = 1,801 enrolled in the study on T1 In this study there is no distinction between low and high risk participants, despite the fact that same study objects are used as in Vinokur (1995)	

Intervention	Control	Outcome/ measurements	Results
		Primary outcome 1. Employment status (see Vinokur 1995) 2. Functioning (role and emotional functioning) See Vinokur (1995) T4 = 2 years posttest (response 79% van T1)	*Primary results 1* Employment status Results not presented[a] T4: employment status significantly higher in experimental vs. control group ($P < .01$) Experimental group working significantly more hours per week ($P < .01$) and more months in the last year ($P < .05$) compared with control group *Primary results 2* Role and emotional functioning Results not presented[a] T4: levels of functioning higher in experimental vs. control group ($P < .05$)

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
Vuori (2002) Finland	RCT Score 20 Quality; good	*N* = 1,261 at T1 *E* (exp.) = 629 at T1 *C* (contr.) = 632 at T1	Heterogeneous sample of Finnish unemployed population Unemployed: mean = 10.7 months (SD = 17.3) Mean age: 37 years (SD = 8.6) Male: 22.2% Duration previous job: not mentioned Psychological distress T1: results not presented[a] Distress experimental vs. control group not significantly different (*P* not mentioned)

Intervention	Control	Outcome/ measurements	Results
Työhön job-search training workshop, based on theories of active learning process, social modeling, gradual exposure to acquiring skills, practice through role playing and preparedness against setbacks (Finnish version of Jobs II, see Vinokur 1995) Of the 629 (T1) study participants who returned the pre-test questionnaire 70.4% showed up for intervention Duration: five 4-h morning sessions during a week Training: 3 co-trainer teams (one male and one female). Trainers selected from Finnish unemployed job seekers and trained (protocol) by training supervisors for 2 months Group training (6–17 participants) (*M* = 10.3, SD = 2.4)	Controls received a literature package, which corresponded to the basic themes in job-search training and included four guides	*Primary outcome* Employment status (reemployment defined as "being reemployed without subsidy from the state" or "running their own business") *Secondary outcome* Psychological distress Psychological distress symptoms were measured with the 12-item version of the General Health Questionnaire (GHQ-12) at T1 and T3 (measurements were not specified) T1 = completed pretest questionnaire; T2 = 2 month posttest (response 88% of T1); T3 = 6-month posttest (response 97% of T1)	*Primary results* Employment status T3: *E* 34% reemployed; *C* 31.9% reemployed; Difference not significant (*P* not mentioned) (reemployed in stable jobs, $P < .05$) *Secondary results* Psychological distress Results not presented[a] T3: lower in experimental group vs. control group ($P < .05$)

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
Vuori (2005) Finland	Pre-post intervention trial Score 9 Quality; poor	*N*= 278 study participants at T1 Non study participants (*N* ?)	Representative sample of unemployed workers (278 study participants) of 71 job-search groups in 19 employment offices throughout Finland, recruited both personally during visit employment office and by mail. The 71 job-search groups also included participants who were other customers of the employment offices and were not participating in these study Unemployed: mean not mentioned, median = 7 months Mean age: not mentioned (median 39 years), range 19–59 years Male: 35 % Duration previous job: not mentioned Psychological distress T1: results not presented[a]

Intervention	Control	Outcome/ measurements	Results
Diversity of group-based job training methods were studied to examine effects of group training techniques on later reemployment and mental health 11% used Työhön, 31% used Työhön added with some other elements, 8% used Työhön, without some elements, 17% used Työhön elements selectively, 12% used some other training method, 21% no specific training method reported Duration: mean 30 h (SD = 13.5), average of 5.2 h per day (SD = 1.1) Training: 52 trainers trained the 71 groups (64% trainers university degree, the others vocational qualifications). 58% attended training specially for job-search trainers		*Primary outcome* Employment status (reemployment defined as "being reemployed without subsidy from the state" or "running their own business") Reemployment in stable jobs defined as not *Secondary outcome* Psychological distress Psychological distress symptoms were measured with the 12-item version of the General Health Questionnaire (GHQ-12) at T1 and T3 T1 = pretest baseline questionnaire; T2 = 2 weeks after initial group session; T3 = 6-months after entering study (response study participants 92% of T1)	*Primary results individual level* Employment status T3: reemployment; results not presented[a] T3: 20 of 278 respondents (7%) reemployed in stable jobs (permanent jobs) *Primary results group level effect* Employment status T3: No aggregated group level indicator of training technique found which predicted significantly improve of reemployment *Secondary results individual level* Psychological distress T3: Mean 24.35 (SD = 6.81) (*P* not mentioned) *Secondary results group level effect* Psychological distress

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
Vuori (1999) Finland	Pre-post intervention trial Score 13 Quality; poor	T1: *N* = 553 at T1 T2: *N* = 401 at T2 84.3% of 401 (*N* =338) took part in labor market interventions between T1 and T2 15.7% of 401 (N = 63) got no intervention	Job-seekers who had been unemployed for less than 1 year, but were considered to be at risk of becoming long-term unemployed (over 1 year) were recruited by officers in five employment offices in Finland T1: Unemployed: less than 1 year but were about to become unemployed for more than 1 year Mean not mentioned Mean age: 35.6 years (SD = 9.4) Male: 36.2 % Duration previous job: not mentioned Psychological distress GHQ-20 mean score: T1: 43.81 (SD *= 10.58)* T2: Unemployed: mean = 7.2 months (SD = 9.4)

Intervention	Control	Outcome/ measurements	Results
Group training (combined group of study and non-study participants), range 5-19 participants (*M* = 11, SD = 2.9) Study participants by group, 2–13 (*M* = 4, SD = 2.5)			T3: Preparation and inoculation against setbacks as an aggregated group level indicator of training technique predicted significant decrease in symptoms of distress (*P* < .01)
Different labor market interventions (guidance course, vocational training or subsidized employment or combinations of 2 or 3 types) were examined *Guidance course* *N*= 182 (45% of 401) Duration: 6-7 h a day for 10–15 days, total between 60-100 h The content of the training varied somewhat between different regions, but focused on the participants own skills, job-search process and labor market knowledge.The aim of the guidance was to activate the participants and to promote their reemployment		*Primary outcome* Employment status (reemployment defined as "being employed without subsidized employment benefit" or "running their own business") *Secondary outcome* Psychological distress Psychological distress symptoms were measured with the 20-item version of the General Health Questionnaire (GHQ-20) at T1 and T2 T1= pretest baseline questionnaire; T2 = 1 year follow up (response 72.5 % of T1)	*Primary results* Employment status T2: 87 of 377 respondents (23.1 %) reemployed (other respondents didn't mentioned reemployment), (*P* not mentioned) Group comparison: 34.6 % of participants in guidance course were reemployed at T2 vs. 23.2% of the rest of the groups who had finished the intervention (*t(302)* = 2.19, *P* < .05)

Table 3 Continued

Author	Design/ quality score	Sample size	Participants
			Mean age: 35.8 years (SD = 9.2), range 18-54 years Male: 33.2 % Duration previous job: not mentioned

[a] *In these study intervention results could not be identified in the original article*

Intervention	Control	Outcome/ measurements	Results
Training: courses arranged by public training centers or private training firms and financed by the employment authorities (background trainers not mentioned) *Vocational training* N = 183 (45.6% of 401); 35 (19.1%) were still in training at T2. Duration: about half a year Training: arranged by vocational schools or public centers *Subsidized employment* N = 180 (44.9% of 401); 43 (23.9%) were still working at T2 Duration: 6 months in public or private sector, mainly financed by government 305 participants of the 401 had finished the intervention at T2			(Conclusion: participation in guidance courses predicted reemployment of those who had finished their interventions at T2, vocational training and subsidized work did not have any effect on reemployment at T2) Groups with only one intervention: Guidance course 29.8% (*N* = 50) reemployed Vocational training 22% (*N* = 54) reemployed Subsidized job 17.5% (*N* = 55) reemployed These 3 groups did not differ statistically significant ($F(2.125) = .94$, NS) *Secondary results* Psychological distress T2: *M* = 42.72 (SD = 11.94) (*P* not mentioned)

Description of the Interventions

All five studies applied group training techniques aimed at promoting re-employment and/or improving mental health. Three out of five studies [14-16,18] were directly or indirectly based on the principles of the JOBS II intervention. One study was based on the "Skillshare" work preparation program [17] and the final study [19] was based on different labor market interventions.

The United States JOBS II intervention program [14] and the Finnish version of JOBS II, the Työhön job-search training workshop [16] are almost identical and based on the same principles, with the exception of minor procedural differences. Both interventions were intended for unemployed job seekers to facilitate their return to the labor market and prevent possible negative mental health consequences of unemployment. Both programs are based on theories of active learning process, social modeling, gradual exposure to acquiring skills, practice through role playing and providing preparedness against setbacks during the job-search process. The interventions consisted of five half-day sessions during a one-week period and were designed to achieve goals through the creation of a socially supportive environment that facilitates positive interactions and relationships between trainers and participants and among participants. The training is designed to increase job-search self-efficacy, increase motivation, and to enhance the following job-search skills: (a) recognizing and communicating marketable skills, (b) identifying and using social networks to find job openings, (c) contacting promising employers, (d) drawing up a job application and résumé, and (e) preparing for successful job interviews. The intervention seminars were delivered by three pairs of male and female co-trainers to groups. The Jobs II seminars were given at community colleges, community centers and rented conference rooms at local hotels; Työhön workshops were organized in classrooms or similar sites in the home region of participants. The Jobs II seminar trainers included social workers, educational counselors, and high school teachers who themselves were unemployed and looking for work. The trainers received approximately 240 hours of instruction. The Työhön co-trainers were selected from Finnish unemployed job seekers and trained by supervisors for two months. While JOBS II was tested only among recently unemployed workers (fewer than 13 weeks unemployed) in the United States, the Työhön study examined outcomes

of the intervention in the context of the European labor market for participants who had been unemployed for a longer period (M = 10.7 months, SD = 17.39). Vinokur et al. [15] followed up with a questionnaire of participants 2 years after the JOBS II study and therefore describes the longer-term impact of the JOBS II program on re-employment and mental health.

The third intervention study is from Vuori et al. [18]. They investigated a variety of group instruction techniques in job-search training on re-employment and mental health. Two thirds of the training techniques were based on the Työhön job-search training (and therefore based on JOBS II) or a modification of that training. The rest of the training techniques were a method called local career counseling (12%), or no specific reported training method (21%). Nearly two thirds (64%) of the trainers had a university degree, and the others had vocational qualifications.

The fourth intervention study was based on the "Skillshare" work preparation program as described by Creed et al. [17]. The Skillshare work preparation program is a combination of occupational skills training (e.g., computer awareness, typing, trade assisting) and personal development (grooming, communication, preparing for interviews) aimed at providing unemployed participants the skills necessary to obtain and maintain paid work. JOBS II lasted five half-days over one week and was tested among the recently unemployed (fewer than 13 weeks), and the Skillshare courses ran full-time for 4 to 7 weeks and tested participants who were unemployed for at least 6 months. Training was classroom-based and included lectures, participant exercises, group discussion, role-playing and videotape input. The courses consisted of a minimum of 60 percent occupational skills training. The training was delivered at community-based centers in Australia, primarily Skillshare centers. Skillshare is a national network of community-based organizations in Australia providing employment training for long-term unemployed people, primarily through federal government funding [20]. The background of the trainers is not mentioned.

The fifth intervention study [19] examined the effect of different labor market interventions (guidance course, vocational training or subsidized employment, or

combinations of two or all interventions) on re-employment, job-seeking activity, and psychological distress of the unemployed. The guidance course focused on the participants' skills, job-search process and labor market knowledge. The course lasts 6 to 7 hours a day for 10 to 15 days, for a total of 60 to 100 hours; courses were arranged by public training centers or private training firms and financed by public employment agencies. The aim of the guidance course was to activate participants and to promote re-employment. The vocational training was arranged by vocational schools or public centers, and the duration of the training was about a half year. The training was either general skills (e.g., language) or basic or advanced vocational training. Subsidized employment lasted for six months in either the public or private sector and was financed primarily by the government.

Methodological quality assessment

The methodology quality assessment score of the included studies is listed in Table 3. The methodological quality score ranges from 9-20 points. Of these five studies, one RCT was of good quality [16], two studies including one RCT were of fair quality [14,17] and two other intervention studies were of poor quality [18,19].

Effectiveness of the Interventions

Of the five intervention studies, only Jobs II reported a significant effect on re-employment; Jobs II and Työhon reported a significant effect on decreasing psychological distress. The other intervention studies mentioned did not report a significant effect on re-employment or psychological distress. Jobs II was also the only intervention study with a post-test measurement after 2 years, in addition to the measurement after 6 months. The post-test measurements of the other four studies varied between 3 months and one year post-intervention.

The interventions of the RCTs, JOBS II [14] and Työhön job-search training workshop (Finnish version of JOBS II) [16] were almost identical, as described earlier. In the short term (6 months post-intervention) the fair quality JOBS II RCT [14] had a significant effect in high risk respondents regarding re-employment ($P < .05$), role and emotional functioning ($P < .01$), and psychological distress ($P < .01$). High risk respondents were defined as having poorer mental health at the

beginning of the study (a combination of more depressive symptoms, higher financial strain and lower assertiveness score). The difference in employment rates in JOBS II six months post intervention was 8% (high risk experimental 62% vs. high risk control 54%). In the long term (two years post-intervention) JOBS II [15] showed a significant effect on re-employment ($P < .01$) and role and emotional functioning ($P < .05$) in all respondents compared to the control group. The employment rate results in JOBS II two years post-intervention were not presented, nor were psychological distress results. The re-employment results of JOBS II were not replicated in the good quality RCT reporting the Työhön job-search training workshop [16]. The difference in employment rates in Työhön six months post-intervention was 2% (experimental 34% vs. control 32%). The Työhön training showed a significant decrease ($P < .05$) 6 months post-intervention in psychological distress compared to the control group. The study of Vuori et al., [18] in which two thirds of the training techniques were based on the Työhön job-search training, did not report employment rate results or the significance of the effect on psychological distress. In the study of the different labor market interventions [19], the statistical significance of re-employment and decrease of psychological distress was also not reported. The Skillshare work preparation program [17] did not show a significant effect on re-employment (experimental 62% vs. control 67%, $P > .05$) or psychological distress compared to the control group.

DISCUSSION

The purpose of this literature review was to determine the effectiveness of vocational interventions on work participation and mental distress for the unemployed and to provide an overview of the characteristics of these interventions. Our review indicates that there is weak evidence to support the use of vocational interventions to improve work participation and limited evidence to reduce mental distress for the unemployed. Intervention programs were characterized by group training techniques focusing on acquiring job-search skills, maintaining paid work, personal development and preparedness against setbacks during the job-search process

Five intervention studies were identified. One intervention study (Jobs II) conducted a post-test measurement after 6 months and after 2 years, while the post-test measurements of the other four intervention studies varied between 3 months to 1 year. Only one effective intervention study for re-employment, the JOBS II intervention program, was found [14,15]. However, in the short term (6 months post-intervention) the positive effect of this program was only reported in the subgroup of high risk participants [14]. This implies that in the short term, JOBS II is only effective for those with poor mental health. In the long term (after two years) the positive effect on re-employment was found in all respondents compared to the control group, but the employment rates were not verifiable [15]. It is important to note that although two other intervention studies [16,18], including one good quality study (RCT) [16], were based on the principles of JOBS II, positive results with regard to re-employment were not replicated.

Improvement in mental status was reported in two intervention studies, the Jobs II intervention program and the Työhön job-search training workshop. However, Jobs II reported a positive effect only for the subgroup with poor mental health [14,16]. This implies that there is limited evidence for an effective intervention aimed at mental distress for the unemployed.

Although the re-employment results of the interventions in this review were poor for unemployed, interventions in the occupational health field show promising results as provided by evidence in several RCTs for different diseases. These include person-directed interventions based on cognitive-behavioral therapy (CBT) or psychological interventions for return to work in various diseases, such as myocardial infarction [21], somatization [22], adjustment disorders [9] and non-specific low back pain [23]. All of these trials showed significant effects in reducing time to return to work or sick leave duration in workers with jobs. Mainly the CBT component of the interventions seems to be responsible for the positive effect. In the five re-employment intervention studies of this review it was not clear whether specific CBT elements were used. Considering the positive results of studies with cognitive-behavioral elements for other populations with sickness absence, CBT also might have a positive effect for the unemployed. The importance of behavior components in return to work interventions was also

reported by Nieuwenhuijsen et al. [24], because predictors of long-term sickness absence in the occupational health care are among other factors behavior-related. A study of cardiac rehabilitation programs that did not focus on psychological treatment showed no effect on return to work [25] in contrast with the study of myocardial infarction in which psychological interventions were added [21]. The positive results of these person-directed intervention studies on return to work suggest potential for vocational interventions on improving work participation for the unemployed. Since psychosocial problems have shown to be significant in unemployed [1] it would be interesting to evaluate whether more attention to mental health concerns would boost the effects of re-employment programs for the unemployed.

CONCLUSION

Given the absence of verifiable results in the only study (RCT) with positive significant results for re-employment of participants and the non-significant results regarding re-employment of the other four studies including another RCT of good quality, we conclude that there is weak evidence to support the use of these vocational interventions for the unemployed to achieve re-employment. Considering the growing worldwide problem of unemployment and its health-related consequences, far too little has been done to develop effective interventions aimed at work participation and mental distress for the unemployed. We recommend further development and evaluation of return to work intervention strategies e.g., with behavioral components for unemployed adults.

APPENDIX: Search Strategy

Medline

Limitations: Publication date: 1 January 1990 to 15 August 2008; Language: English, German, French and Dutch
("unemployment"[MeSH]) OR ("unemployment") OR ("unemployed") OR ("job loss") OR (unemploy*)

AND

("psychological ill health") OR ("adaptation, psychological"[MeSH]) OR ("adaptation, psychological") OR ("psychological problem*") OR ("psychological factor*") OR ("stress, psychological"[MeSH]) OR ("stress, psychological") OR ("coping behavior") OR (coping) OR ("well being") OR ("psychological symptom*") OR ("psychosocial problem*") OR ("psychosocial factor*") OR ("psychosocial aspect*") OR ("psychosocial complaint*") OR ("mental ill health") OR ("mental problem*") OR ("social problems"[MeSH]) OR ("social problems") OR ("mental aspect*") OR ("emotional problems") OR ("emotional aspects") OR ("emotional depression") OR ("depression"[MeSH]) OR ("depression") OR ("emotional stress") OR ("minor psychiatric morbidity") OR ("minor psychiatric problems") OR ("stress related disorders") OR ("mental distress") OR ("emotional distress") OR ("emotional difficulties") OR ("adjustment disorders"[MeSH]) OR ("adjustment disorders") OR ("depressive disorder"[MeSH]) OR ("depressive disorder") OR ("minor depression")

AND

("sickness absence") OR ("sick leave"[MeSH]) OR ("sick leave") OR ("sickness leave") OR ("sickness duration") OR ("sickness leave duration") OR ("average number of days of sick leave") OR ("return to work") OR ("time to return to work") OR ("partial and full return to work") OR ("reemployment") OR ("work ability") OR ("work participation") OR ("functional performance") OR ("functioning") OR ("absenteeism"[MeSH]) OR ("absenteeism") OR ("work disability") OR ("disability

leave") OR ("job resume") OR ("job application"[MeSH]) OR ("job application") OR (unemploy*) OR ("Unemployment"[Mesh]) OR ("Unemployment") OR ("Employment"[Mesh]) OR ((Employment) OR ("work resumption") OR ("Rehabilitation, Vocational"[Mesh]) OR ("vocational rehabilitation") OR ("job seeking") OR ("Activities of Daily Living"[Mesh]) OR ("Activities of Daily Living") OR ("Activity, Daily Living") OR ("Human Activities") OR ("level of functioning") OR ("Quality of Life"[Mesh]) OR ("quality of life")

EMBASE

Limitations: Publication date: 1 January 1990 to 18 August 2008; Language: English, German, French and Dutch
exp UNEMPLOYMENT/ OR unemployed.mp. OR unemployment.mp. OR (job adj loss).mp. OR unemploy*.mp.

AND

exp Psychological Aspect/ OR (psychological adj aspect).mp. OR exp Mental Health/ OR (mental adj health).mp. OR (psychic adj health).mp. OR (mental adj tension).mp. OR (nervous adj stress).mp. OR (psychic adj stress).mp. OR (psychic adj tension).mp. OR (psychological adj stress).mp. OR psychologic adj stress).mp. OR stress, psychologic.mp. OR stress, psychological.mp. OR tension, mental.mp. OR tension, psychic.mp. OR exp Mental Load/ OR (mental adj load).mp. OR (psychological adj ill adj health).mp. OR (psychological adj problems).mp. OR (psychological adj symptoms).mp. OR (psychosocial adj problems).mp. OR exp MALADJUSTMENT/co, di, dm, rh, th OR maladjustment.mp. OR maladaptation.mp. OR maladaption.mp. OR (psychosocial adj complaints).mp. OR exp DEPRESSION/ OR depression.mp. OR exp Mood Disorder/ OR (mood adj disorder).mp. OR (mental adj ill adj health).mp. OR (mental adj problems).mp. OR (emotional adj problems).mp. OR exp Adjustment Disorder/ OR (adjustment adj disorder).mp. OR (adjustment adj reaction).mp. OR (transient adj situational adj disorder).mp. OR exp Emotional Stress/ OR (emotional adj stress).mp. OR stress, emotional.mp. OR (emotional adj distress).mp. OR (emotional adj tension).mp. OR (minor adj psychiatric adj morbidity).mp. OR (minor adj psychiatric adj problems).mp. OR

stress related disorders.mp. OR mental distress.mp. OR emotional difficulties.mp. OR minor depression.mp.

AND

exp ABSENTEEISM/ OR absenteeism.mp. OR (sickness adj absence).mp. OR (sickness adj absenteeism).mp. OR (work adj absence).mp. OR (work adj absenteeism).mp. OR (work adj day adj loss).mp. OR (work adj time adj loss).mp. OR long term sickness absence.mp. OR (sick adj leave).mp. OR (sickness adj leave).mp. OR (sickness adj duration).mp. OR (sickness adj leave adj duration).mp. OR average number of days of sick leave.mp. OR return to work.mp. OR time to return to work.mp. OR (partial and full return to work).mp. OR reemployment.mp. OR workability.mp. OR (work adj participation).mp. OR (functional adj performance).mp. OR daily life activity.mp. OR activities of daily living.mp. OR activity, daily living.mp. OR daily living activity.mp. OR (human adj activities).mp. OR (work adj performance).mp. OR functioning.mp. OR unemploy*.mp. OR exp UNEMPLOYMENT/ OR unemployment.mp. OR exp EMPLOYMENT/ OR employment.mp. OR exp Work Resumption/ OR (work adj resumption).mp. OR exp Vocational Rehabilitation/ OR (Vocational adj Rehabilitation).mp. OR exp Job Finding/ OR (job adj seeking).mp.

PsycINFO

Limitations: Publication date: 1 January 1990 to 22 August 2008; Language: English, German, French and Dutch
(unemployment) OR (“Unemployment-” in MJ,MN) OR (unemployed) OR (unemploy*) OR (employment status) OR (“Employment-Status” in MJ,MN) or (job loss) OR (personnel termination) OR (“Personnel-Termination” in MJ,MN)

AND

(coping behavior) OR (“Coping-Behavior” in MJ,MN) OR (psychological ill health) OR (mental health) OR (“Mental-Health” in MJ,MN) OR (distress) OR (“Distress-” in MJ,MN) OR (depression) OR (psychological adjustment) OR (emotional adjustment) OR (“Emotional-Adjustment” in MJ,MN) OR (psychological problems)

OR (psychosocial problems) OR (psychosocial factors) OR ("Psychosocial-Factors" in MJ,MN) OR (psychosocial complaints) OR (mental ill health) OR (mental load) OR ("Human-Channel-Capacity" in MJ,MN) OR (mental problems) OR (adjustment) OR ("Adjustment-" in MJ,MN) OR (emotional problems) OR (emotional control) OR ("Emotional-Control" in MJ,MN) OR (emotional maladjustment) OR ("Emotional-Adjustment" in MJ,MN) OR (emotional responses) OR (minor psychiatric morbidity) OR (psychiatric symptoms) OR ("Psychiatric-Symptoms" in MJ,MN) OR (minor psychiatric symptoms) OR (stress related disorders) OR (psychological stress) OR ("Psychological-Stress" in MJ,MN) OR (social stress) OR ("Social-Stress" in MJ,MN) OR ("Emotional-Responses" in MJ,MN) OR (stress management) OR ("Stress-Management" in MJ,MN) OR (well being) OR ("Well-Being" in MJ,MN) OR (mental distress) OR (emotional distress) OR (emotional difficulties) OR (adjustment disorders) OR ("Adjustment-Disorders" in MJ,MN) OR (personal adjustment) OR (emotional adjustment) OR (minor depression) OR (reactive depression) OR ("Reactive-Depression" in MJ,MN) OR (depressive reaction) OR ("Major-Depression" in MJ,MN)

AND

(sickness absence) OR (absenteeism) OR ("Employee-Absenteeism" in MJ,MN) OR (long term sickness absence) OR (sick leave) OR (sickness leave) OR (employment status) OR ("Employment-Status" in MJ,MN) OR (sickness duration) OR (sickness leave duration) OR (average number of days of sick leave) OR (return to work) OR (time to return to work) OR (partial and full return to work) OR (job search) OR ("Job-Search" in MJ,MN) OR (job reentry) OR (job applicant attitudes) OR ("Job-Applicant-Attitudes" in MJ,MN) OR (reemployment) OR ("Reemployment-" in MJ,MN) OR (quality of life) OR ("Quality-of-Life" in MJ,MN) OR (ability level) OR ("Ability-Level" in MJ,MN) OR (work ability) OR (work disability) OR (work participation) OR (functional performance) OR (activities of daily living) OR ("Activities-of-Daily-Living" in MJ,MN) OR (functional status) OR (level of functioning) OR (functioning) OR (ability level) OR (disabilities) OR ("Disabilities-" in MJ,MN) OR (unemploy*) OR (unemployment) OR ("Unemployment-" in MJ,MN) OR (employment) OR (employment-status) OR ("Employment-Status" in MJ,MN) OR (vocational-rehabilitation) OR ("Vocational-Rehabilitation" in MJ,MN) OR (job-seeking)

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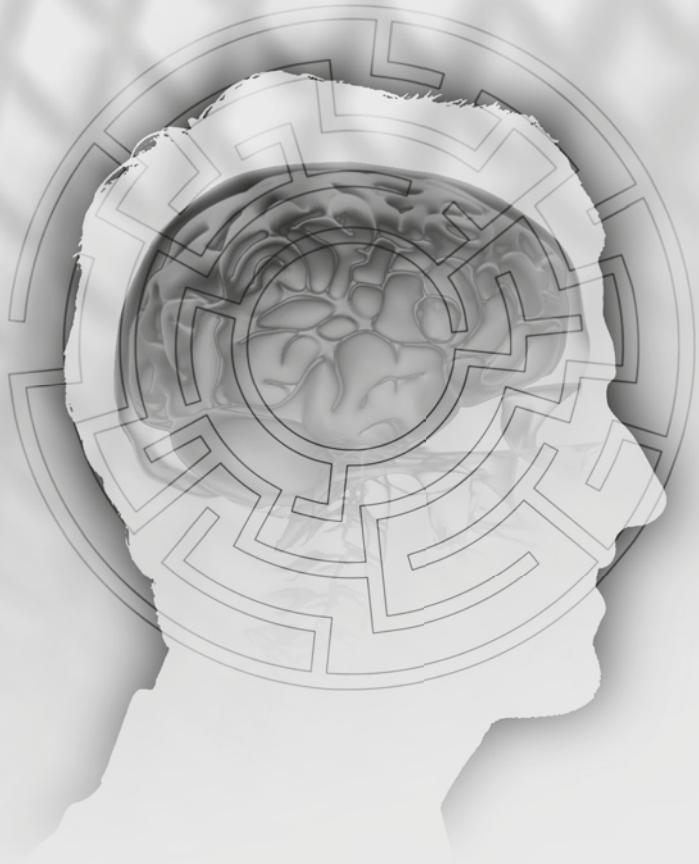

CHAPTER 5

Development and qualitative evaluation of an adapted return to work guideline for the sick-listed unemployed and temporary agency workers with minor psychological problems

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BMC Res Notes. 2012; 5:535. doi: 10.1186/1756-0500-5-535.

ABSTRACT

Background

Among the working population, unemployed and temporary agency workers with psychological problems are a particularly vulnerable group, at risk for sickness absence and prolonged work disability. There is a need for the development of a new protocol for this group, because the existing return to work (RTW) interventions, including practice guidelines, do not address the situation when there is no workplace to return to. The purpose of this study was to (1) describe the adaptations needed in the practice guideline for employed workers to enable its use by insurance physicians (IPs) for counselling of sick-listed unemployed and temporary agency workers with minor psychological problems; and (2) evaluate the experiences of IPs when using the new guidance document for minor psychological problems (MPP guidance document).

Methods

The MPP guidance document for unemployed and temporary agency workers was developed through discussions with nine IPs and with the help of an expert. Semi-structured interviews with five IPs were then held to evaluate the IPs' field experience using the MPP guidance document, in terms of (a) feasibility and (b) perceived usefulness of the MPP guidance document.

Results

The main adaptation introduced in the guideline is that interaction with the workplace, which is absent in this population, needed to be established in an alternative way, i.e., through the involvement of vocational rehabilitation agencies and labour experts. Overall, the guideline required minimal changes. In total, nineteen sick-listed workers were counselled using the MPP guidance document. The overall experience of the IPs was that the MPP guidance document was feasible and useful for the IP, while they had mixed responses on its usefulness for the sick-listed worker, in part due to the follow-up period of this study.

Conclusions

An existing practice guideline for employed workers was adapted for use as a guidance document for unemployed and temporary agency workers with minor psychological problems. IPs were positive about applying the MPP guidance document. The guidance document provides opportunities for RTW counselling for unemployed and temporary agency workers with minor psychological problems.

BACKGROUND

Unemployed and temporary agency workers and work disability

Workers without an employment contract, such as unemployed and temporary agency workers, are at higher risk of work disability compared to the general working population as there is no employer to return to when sick-listed [1-6]. Many unemployed individuals will experience psychological problems [7-10]. Poor mental health increases the distance to the labour market leading to further health deterioration and prolonging sickness absence. In the Netherlands 40% of the sick leave of unemployed and temporary agency workers is due to psychological problems [11]. The primary problem these workers deal with is loss of control. In absence of an employer regaining control by gradually returning to work is not possible. Except common characteristics there are also differences between the unemployed and temporary agency workers. Temporary agency workers are younger, more often non-natives and have a better full return to work (RTW) expectation and perceived health, whereas the unemployed workers are relatively older and longer out of work [12].

The Dutch Social Security System

In the Netherlands the Sickness Benefits Act provides for workers without an employment contract who become sick-listed. The Social Security Agency (SSA) provides a sickness benefit during the first two years of sickness absence. There are no legislative mandates for these workers to be returned to their previous/ last job. Therefore the SSA is also responsible for the sickness absence counselling. This is conducted by an insurance physician (IP) but is less intensive as compared to RTW counselling of occupational physicians (OPs) [13].

Study Rationale/Objective

There is a lack of studies on sickness absence counselling of sick-listed unemployed and temporary agency workers with psychological problems. A systematic review on non sick-listed unemployed identified five RTW interventions and revealed weak evidence for effectiveness [14]. In employed workers with minor psychological problems an evidence-based practice guideline for OPs is available [15-17]. Elements of this guideline are an active attitude and activating approach (encouraging workers to seek solutions to their problems in order to exert control over their own recovery process), a time-contingent process evaluation and cognitive behavioural principles**.** Studies showed that guideline-based care may fasten RTW [18-20]. The guideline, which is central to this study, consists of three process phases and includes recovery tasks for each phase (Table 1)**.**

There is a need for a new protocol for workers with no workplace to return to. A focus on work is important as (partially) working during RTW is an important predictor of successful RTW in this group [21]. Therefore we explored whether the guideline for employed workers with psychological problems could be applied to this group. This study focuses on minor psychological problems. This includes stress-related complaints (distress, nervous breakdown, burn-out, adjustment disorders) and minor depression.

This study aimed to: (1) describe the adaptations needed in the practice guideline for employed workers to enable its use by IPs for RTW counselling of sick-listed unemployed and temporary agency workers with minor psychological problems; and (2) evaluate the experiences of IPs when using the new guidance document for minor psychological problems (MPP guidance document).

METHODS

The first part of our study concerns the development of the MPP guidance document, and the second part evaluates the experiences with it.

Table 1 Description of the three process phases in the practice guideline for employed workers

Process phase	Recovery tasks	Interventions	Timeline*
Loss of control leads to 1. CRISIS PHASE	- understanding and insight - acceptance - rest and relaxation - structure	- information (oral and written) - rational - talking advice - providing perspective - positive labelling - worry assignments - daily structure - sleep structure	Start counselling within 2 weeks after reporting sick. Completion after approximately 3 weeks (after starting counselling) **Goal not achieved → stagnation**
View on causes leads to	From orientation on problems to orientation on solutions.	- problem and solutions inventories	Completion at 3-6 weeks after completion of the first phase
2. PROBLEM- AND SOLUTION PHASE	- identification of problems and solutions or directions	- writing and registration assignments	**Goal not achieved → stagnation**
Application of solutions leads to	Orientation on applications. - picking up all the roles and tasks	- target schemes - anticipation assignment	Completion no later than 6 weeks after completion of the second phase
3. APPLICATION PHASE	- performance recovery of the worker	- reorganise assignments	**Goal not achieved → stagnation**

* In case of stagnation in each of the three phases the physician should reconsider the following principles:
(a) supplement problem orientation?; (b) change diagnosis?; (c) adjust interventions?
Go through the stage again (+ related tasks) and complete

Development of a guidance document for minor psychological problems

The first column of Table 2 presents a summary of the four parts of the evidence-based guideline for employed workers [17]: 1) problem orientation and diagnostics, 2) interventions, 3) prevention and relapse prevention and 4) evaluation and termination of counselling. Early counselling (within two weeks after reporting sick), frequent follow-up consultations (every three weeks), at least 30 minutes per consultation and contact with the workplace/manager are preconditions for implementation.

The guideline for employed workers required adaptations for use as a MPP guidance document. The research team and an expert on the guideline analysed which elements were not applicable because an employer was needed. Consensus was quickly reached after which the guideline was adapted and discussed in three discussion meetings with nine IPs, all volunteers from three offices of the Dutch SSA. They discussed: (1) textual clarity; (2) applicability; (3) obstacles (personal skills, knowledge) in applying the MPP guidance document and solutions; (4) organisational obstacles and solutions; (5) suggestions for improvement.

The aspects of the guideline for employed workers that needed to be adapted are marked with asterisks in the left column of Table 2.

Experiences of IPs with the MPP guidance document

Design

In this qualitative study, semi-structured interviews were conducted to evaluate the experiences of IPs with the MPP guidance document.

Participating IPs

Five of the nine IPs involved in the discussion meetings were asked to use the MPP guidance document. Each planned to counsel four sick-listed unemployed or temporary agency workers over a period of two months, between August 2010 and July 2011. Informed consent was obtained from all participating IPs prior to data collection. Anonymity and confidentially were ensured. Ethical approval was not required, because the current study did not meet the criteria of Medical Research Involving Human Subjects Act as no patient data were recorded and only basic characteristics were reported by the IPs.

Procedure

Training of IPs

The IPs received a one-day training course on applying the guidance document, including instruction on: background and theory; diagnostic criteria including clinical diagnostics and process phases; diagnostic tools, such as questionnaires; instructions for core interventions, such as rationale, problem- and solution inventory; discussion of cognitive behaviour principles and a motivational approach. Further, the IPs were provided with various forms (schedule of actions of the IP, flowchart, checklists) that helped them systematically adhere to the guidance document.

Recruitment of sick-listed workers

Recruitment of the sick-listed worker by the IP was scheduled within two to three weeks after the worker reported sick. The workers were blind to the fact that they were counselled according the MPP guidance document. They were included if the distress score from the Four Dimensional Symptom Questionnaire (4DSQ) was higher than 10 [22,23] and no major psychological problems were present as evaluated by the IP. The diagnostic criteria for psychiatric diagnoses are based on the DSM-IV criteria [24] and described in the guideline for OPs. Follow-up consultations were scheduled every three weeks for two months or until the worker was recovered.

Measures

The experiences of the IPs with the MPP guidance document were operationalised as (a) the feasibility of the MPP guidance document and (b) the perceived usefulness of the MPP guidance document.

Interview

Semi-structured interviews were conducted with the five IPs to evaluate their experiences on an aggregated level (combining information from several workers). All interviews were conducted by the first author, an experienced IP. The following topics were addressed: textual clarity, training of the IPs, experiences applying the guidance document, adjustments needed to the guidance document on the content and procedural levels, helpfulness to the sick-listed worker, and the success of counselling in terms of RTW.

Table 2 Summary of the practice guideline for psychological problems and subsequent adaptations in the MPP guidance document

The evidence-based guideline for counselling employed workers with psychological problems (van der Klink et al. 2007)	*Adaptations of the guideline to create the MPP guidance document for the counselling of unemployed and temporary agency workers*
• "Loss of control" is the central feature of almost all psychological problems • Complaint-focused interventions do not automatically lead to performance recovery	
• Recovery is an interactional process with the working environment*	• Involvement of a vocational rehabilitation agency or temporary worker agency to find a "new working environment" for the sick-listed unemployed or temporary agency worker. By doing so, interaction with the working environment will be possible • Involvement of a labour expert of the Dutch Social Security Agency to facilitate work reintegration
Preconditions for an adequate implementation of the guideline	
• the OP should start the counselling within two weeks after reporting sick • at least 30 minutes per consultation • follow-up consultations on average once every three weeks	
• contact with working environment/manager on average once a month*	• if applicable, contact can be made by the IP or labour expert (see above)
I Problem orientation and diagnostics **Apply this guideline if the employee suffers from loss of control and performance problems due to** • stress-related complaints (distress, nervous breakdown, burn-out, adjustment disorders) • or minor or moderate depression • or anxiety disorder** • or other psychiatric disorders** • and the employee does not present excessive resistance to the diagnosis of psychological problems	

Do not apply this guideline if the complaints are the direct results of

- an acute emotional state (e.g., anger)
- or a somatic condition

Inventory and assess

- complaints, performance problems, causal factors
- problem solving skills of the employee and the manager*
- to what extent can the complaints be explained by a stress process (demands, problems, environmental events)
- possible complications in the employee with a somatic hypothesis, suicidal risk, irrational cognitions or rigid personal personality traits, victims of harassment and employees where a conflict in the work situation is the main etiological factor

Make sure that the recovery process does not stagnate

No stagnation or normal course

- provide supportive but cautious guidance and monitor the further recovery process

II Interventions

Minimally conduct the role as a process facilitator and consider intervening on the level of the worker and/or the work system.* Monitor the complaint pattern through monthly diagnostics with the Four Dimensional Symptom Questionnaire to exclude that the complaints develop into a depressive disorder/anxiety disorder.

Intervention tasks

- support the employee when taking recovery steps using simple cognitive behavioural interventions such as providing rationality, perspective, daily structure, positive re-labelling
- give explanations, information and support to those involved in the work environment
- discuss with the general practitioner if the complaint pattern and suffering remain unchanged or worsen over the course of two months

- only address the problem-solving skills of the sick-listed worker

Three roles for the IP and/or labour expert: (1) role as process facilitator; (2) intervention role focused on the sick-listed unemployed or temporary agency worker; (3) intervention role focused on the new workplace of the sick-listed temporary agency worker or unemployed worker (if a workplace is found for the sick-listed worker with help of the labour expert).

The IP conducts at least the first role and part of the second role and decides who takes on the other roles (this could also be the IP).

Consulting with a labour expert from the Dutch Social Security Agency to facilitate finding a “new work environment.” In the Dutch context, the labour expert co-ordinates the involvement of vocational rehabilitation agencies or temporary worker agencies.

Table 2 Continued

The evidence-based guideline for counselling employed workers with psychological problems (van der Klink et al. 2007)	*Adaptations of the guideline to create the MPP guidance document for the counselling of unemployed and temporary agency workers*
In stagnation • indicate and initiate interventions and ensure adequate Implementation	
III Prevention and relapse prevention • strengthen the problem-solving skills of employees and the work environment to avoid relapse • be available if needed by the employee based on the symptoms that previously led to reporting sick • recommend further investigation (risk assessment and evaluation, preventive medical examination, organisational or workplace analysis) if there is evidence of problems experienced by many workers*	• relapse prevention (in terms of symptoms and sick leave) by the IP is only focused on the individual and not on all the workers of the employer. Recommendations by the IP about risk assessment and evaluation or organisational analysis are therefore not applicable
IV Evaluation and termination of counselling Counselling by the OP continues until after the full resumption of work*	Counselling by the IP continues until the worker is able to work (and not sick-listed anymore) or after RTW/a new workplace is found for the (sick-listed) worker
Evaluate *with the employee* • every three weeks in the first three months • at least every six weeks after three months *with the manager* • at least every four weeks *with other practitioners* • in stagnation or relapse	**Evaluate** *with (sick-listed) worker* • every three weeks in the first three months • at least every six weeks after three months *with the manager (if the sick-listed worker is integrated into work)* • at least every four weeks *with other practitioners* • in stagnation or relapse

with the labour expert (and possibly the insurance physician) • if structural work adjustments are necessary • or if resumption of work is not possible at the current employer	*with the labour expert* • course of finding a new workplace Some of the evaluation points can be transferred to the labour expert of the Dutch Social Security Agency

Summary of the evidence-based practice guideline for counselling “employed workers” with psychological problems and the main adaptations to create the MPP guidance document for counselling “unemployed and temporary agency workers.”

* Adaptation of the guideline (made by the research team and an expert on the guideline for employed workers) at this point was necessary to execute the guideline in the context of the unemployed and temporary agency workers (no employer or workplace available)

** This diagnosis is not involved in the guidance document for unemployed and temporary agency workers

OP = occupational physician IP = insurance physician

Data analysis

The interviews were tape-recorded with permission from the participants and then transcribed (by SA) in an overview table for data analysis. The transcripts were compared once again (by SA and KN) with the audio recordings to ensure accurate content and interpretation of the data. The researchers SA and KN discussed their interpretation of the data, and disagreements were resolved. Thereafter, the data were discussed by the research team. Analyses involved summarising the results of the interviews.

RESULTS

MPP guidance document

Adaptations of the guideline for employed workers

The right column of Table 2 presents the adaptations needed in the guideline for employed workers for use in unemployed and temporary agency workers. The core adaption is that because no employer is available, interaction with the workplace needs to be established in an alternative way, i.e., through the involvement of vocational rehabilitation agencies and labour experts. Further, prevention and relapse prevention are more focused on the individual instead of on the level of the work organisation.

Experiences of the IPs when using the MPP guidance document

In total, nineteen sick-listed workers were counselled with the guidance document. Table 3 presents an overview of the characteristics of these workers.

The feasibility of the MPP guidance document

The guidance document was considered textually clear, and most IPs felt adequately prepared by the training course to apply it. More focus on applying interventions and detecting stagnation in the recovery process was suggested to improve the training. The timeline was considered feasible, but only when the logistic process of the SSA could be adapted to fit that timeline (see preconditions Table 2), for example by implementing necessary changes at the organizational level. The IPs reported that applying elements from the guidance document resulted in professional support and structure for the IP and sick-listed worker.

Table 3 Characteristics of the sick-listed unemployed and temporary agency workers

Number	Sex	Age	Unemployed worker/ Temporary agency worker	Duration of unemployment	Diagnosis	Work participation*
1	Female	34	Unemployed worker	1 month	Adjustment disorder	No
2	Female	48	Unemployed worker	11 months	Adjustment disorder	Yes
3	Male	40	Unemployed worker	11 months	Adjustment disorder	Yes
4	Female	39	Unemployed worker	8 months	Adjustment disorder	Yes
5	Male	52	Unemployed worker	13 months	Minor depression	Yes
6	Male	52	Unemployed worker	12 months	Adjustment disorder	Yes
7	Female	46	Unemployed worker	5 months	Adjustment disorder	No
8	Female	49	Unemployed worker	5 months	Adjustment disorder	No
9	Female	35	Unemployed worker	4 months	Adjustment disorder	No
10	Female	31	Temporary agency worker	Not applicable	Adjustment disorder	Yes
11	Female	45	Temporary agency worker	Not applicable	Adjustment disorder	No
12	Female	60	Unemployed worker	2 months	Adjustment disorder	No
13	Female	43	Temporary agency worker	Not applicable	Adjustment disorder	No
14	Male	30	Temporary agency worker	Not applicable	Minor depression	No
15	Male	44	Unemployed worker	?	Adjustment disorder	No
16	Male	40	Unemployed worker	16 months	Adjustment disorder	Yes
17	Female	57	Unemployed worker	12 months	Adjustment disorder	Yes
18	Female	58	Unemployed worker	2 days	Adjustment disorder	Yes
19	Male	62	Unemployed worker	9 months	Adjustment disorder	No

* Work participation (return to work or able to work and no longer receiving sickness benefit) at follow up; 6 months after reporting sick
Our study covered the first two of the process phases, and in some cases a part of the third phase

For example the different process phases in the guideline give insight in which phase the patient is and what he or she can do. Further, the worry assignments provided insight and structure to the patients. However, when stagnation in the recovery process occurred, IPs experienced more difficulties on the level of skills and experience. They reported that no adjustments were necessary besides the preconditions for implementing the guidance document. In addition, most IPs suggested more time per consult and more flexibility to schedule these would improve the feasibility. Cooperation from management and less detailed reporting was also mentioned by some IPs as preconditions.

The perceived usefulness of the MPP guidance document according to the IP

Some IPs believed that RTW counselling according to the guidance document was helpful because it gave the worker structure and prevented further deterioration. For example it outlined a timeline for patients which they could build on. However, IPs also reported that they could not judge whether the RTW counselling was helpful because information on a control group was lacking or they did not know the worker's perception. Most IPs stated that they could not judge whether a faster RTW was achieved because of the short follow-up period in this study (two months) or due to other reasons. Despite their uncertainty, some IPs believed that counselling succeeded in a faster RTW. An IP stated: *"The patients are advised in an early stage what actions have to be undertaken in order to regain control. The longer you wait, the harder it becomes to get out of the situation."* One worker started with volunteer work and three workers were able to work three months after reporting sick. IPs were still using the guidance document to varying degrees after the end of the study, especially for the diagnostic of the process phases, as well as problem orientation and identification and for recognising stagnation in the worker's recovery process. Further, the guidance document was thought to provide helpful elements for counselling such as rational, perspective or positive re-labelling of the problem experienced by patients.

DISCUSSION

We found that the core element of the adaptation of the guideline for employed workers is that because no employer is available, interaction with the workplace needs to be established in an alternative way, i.e., through the involvement of vocational rehabilitation agencies and labour experts. The overall experiences of the IPs were that the MPP guidance document was feasible for sickness absence counselling of unemployed and temporary agency workers and useful for the IP, while providing mixed reports on the usefulness for the sick-listed worker due to the short follow-up period of the study or a lack of information.

The findings of this study show that the guidance document could be applied to sick-listed unemployed and temporary agency workers with minor psychological problems. The document also provided IPs with professional support and a structure for counselling. The willingness among the IPs to use the guidance document is apparent as IPs were still using it after the study period had ended. However, the training provided could be improved by more focus on enhancing skills such as: conducting of cognitive behavioural interventions, diagnostics of process phases and exercises how to deal with stagnation in the recovery process. We feel that diagnostic skills are especially important to exclude that a major psychiatric disorder may be mistaken for stagnation of the recovery process. We cannot determine whether the guidance document was also helpful for the sick-listed worker, due to the short guidance period covered by the study, or other reasons such as not involving the workers' perception. The low number of IPs involved in this study, may raise the question of generalisation. However, they were selected for their ability to provide information in the use of the guidance document. While this enhances generalisability from a qualitative point of view, generalisability of our findings depends on the extent to which similar contexts exists in other countries [25]. More purposefully sampling for diversity might further enhance generalisability. To determine whether counselling according to this guidance document enhances RTW in this specific population, an effect study with a longer follow-up period is needed. The positive first experiences of the IPs in this study, might justify such study. Promising positive results on the RTW of employed workers have been observed for the interventions on which the

guideline for employed workers was based [18]. A long follow up period might also give insight which barriers have to be addressed in order to create a workplace for these workers and may show differences in RTW chances and attractiveness for the labour market between the unemployed and temporary agency workers. Due to the short follow up in our study, our evaluation is mainly based on experiences of the IPs in using the MPP guidance document during the first two process phases (crisis phase and problem- and solution phase) and only a part of the third phase. Involvement of a vocational rehabilitation agency or labour expert (funded by the SSA) to create a workplace for the sick-listed worker is an element of the third phase that was not evaluated in the current study. Of the nineteen sick-listed workers who were counselled, nine workers were able to work or have returned to work with in six months after reporting sick (see Table 3).

An important consideration of this specific population is the lack of an employer or workplace, placing the worker a greater distance from the labour market. This also hampers the recovery process because there is no workplace available to facilitate the interactive process of regaining control. Furthermore, these sick-listed workers cannot benefit from the positive effect of (partial) RTW as a strong prognostic factor for future work participation [21]. That a workplace facilitates RTW is also apparent from a study conducted among unemployed and temporary agency workers sick-listed due to musculoskeletal disorders [26]. Since the lack of an employer or workplace is the core feature of this group the outcome of our study is also internationally relevant, as unemployment is a worldwide problem. In absence of a workplace we advise alternative ways of regaining control. The sick-listed worker can be stimulated to engage in demanding activities, both indoors and outdoors**.** As an example, choosing hobbies and seeking and carrying out volunteer work are promising avenues.

As the work itself or (temporary) work(place) accommodations are important predictors for RTW [21,27-29], it would be interesting to evaluate options for sick-listed unemployed and temporary agency workers to participate in the labour market as part of a reintegration program. This reintegration program could add value to the MPP guidance document and would hopefully lead to greater work participation.

CONCLUSIONS

The evidence-based guideline regarding the counselling of employed workers with psychological problems was adapted to a guidance document for unemployed and temporary agency workers. The core of the adaptation concerns the interaction of the worker with the workplace through the involvement of vocational rehabilitation agencies and labour experts. Further alternatives for activation include engaging in demanding activities both indoors and outdoors, such as choosing hobbies and volunteering. The first experiences of the IPs in applying the guidance document were positive. Further investigation is needed to determine whether RTW counselling according to the MPP guidance actually leads to earlier return to work.

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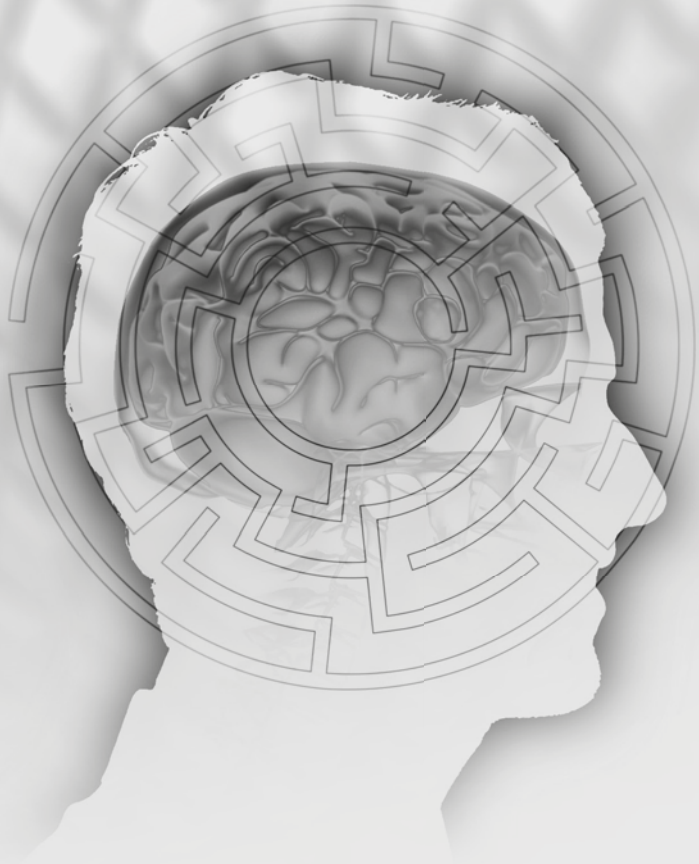

CHAPTER 6

The effectiveness of the "Brainwork Intervention" in reducing sick leave for unemployed workers with psychological problems: design of a controlled clinical trial

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BMC Public Health. 2015; 15:377. doi: 10.1186/s12889-015-1728-z.

ABSTRACT

Background

Among the working population, unemployed, temporary agency and expired fixed-term contract workers having psychological problems are a particularly vulnerable group, at risk for sickness absence and prolonged work disability. Studies investigating the effectiveness of return-to-work (RTW) interventions on these workers, who are without an employment contract, are scarce. Therefore, a RTW intervention called 'Brainwork' was developed. The objective of this paper is to describe the 'Brainwork Intervention' and the trial design evaluating its effectiveness in reducing the duration of sick leave compared to usual care.

Methods/Design

The 'Brainwork Intervention' is designed to assist unemployed, temporary agency and expired fixed-term contract workers who are sick-listed due to psychological problems, with their return to work. The 'Brainwork Intervention' uses an activating approach: in the early stage of sick leave, workers are encouraged to exercise and undertake activities aimed at regaining control and functional recovery while job coaches actively support their search for (temporary) jobs. The content of the intervention is tailored to the severity of the psychological problems and functional impairments, as well as the specific psychosocial problems encountered by the sick-listed worker. The intervention study is designed as a quasi-randomized controlled clinical trial with a one-year follow-up and is being conducted in the Netherlands. The control group receives care as usual with minimal involvement of occupational health professionals. Outcomes are measured at baseline, and 4, 8 and 12 months after initiation of the program. The primary outcome measure is the duration of sick leave. Secondary outcome measures are: the proportion of subjects who returned to work at 8 and 12 months; the number of days of paid employment during the follow-up period; the degree of worker participation; the level of psychological complaints; and the self-efficacy for return to work. The cost-benefit analysis will be evaluated from an insurer's perspective

Discussion

The methodological considerations of the study design are discussed. In this trial we evaluate the effectiveness of an intervention in real occupational health practice, rather than under highly controlled circumstances. The results will be published in 2015.

Trial registration

Trial registration number: NTR4190

Date of registration: September 27th 2013

BACKGROUND

Unemployed and temporary agency workers and psychological problems

Workers without an employment contract, such as unemployed and temporary agency workers and workers with expired fixed-term contracts, are at a higher risk for work disability compared to the general working population, as there is no employer to return to when sick-listed or after sick leave has expired [1-7]. Workers without an employment contract represent a vulnerable group within the working population. They are characterized by a poor mental health status and a low socio-economic position [4-7]. They have less job security and are more often of non-native status, with a greater distance to the labour market, and an increased risk for work disability compared to workers with an employment contract [4,5,7]. In recent years, the number of workers without an employment contract has been growing due, in part, to the worldwide economic crisis [4,5,8-10]. As many unemployed individuals will experience psychological problems [11-14], the impact of sickness absence on public and occupational health programs/systems is important. Psychological problems are currently the leading cause of sickness absence in most high-income countries, accounting for approximately 40% of sick leave [15,16]. In the Netherlands, 40% of the sick leave of workers without an employment contract is due to psychological problems [17]. One of the primary problems these workers encounter is loss of control. In absence of an employer, regaining control by gradually returning to work is not possible. However, there are other ways to gain control and activate these workers, particularly through physical activities and volunteer work.

The Dutch Social Security System

In the Netherlands, the Sickness Benefits Act provides assistance for sick-listed workers without an employment contract. The Social Security Agency (SSA) provides a sickness benefit during the first two years of sickness absence. There are no legislative mandates for these workers to be returned to their previous/last job. Therefore, the SSA is also responsible for sickness absence counselling, which is usually conducted by an insurance physician (IP).

Study rationale

Most return-to-work (RTW) intervention research is aimed at sick-listed, currently employed workers with an employment contract. In contrast, the development of effective RTW interventions for workers without an employment contract is lagging behind [18,19]. RTW interventions need to be developed for this group because the existing RTW interventions for employed workers do not address situations in which there is no workplace to which they can return. Focusing on the ability to work is important, as working even some hours during the RTW process is an important predictor of successful RTW in this group [20]. For this purpose, and to optimize the sickness absence counselling, professionals of the SSA developed the Brainwork Intervention for workers without an employment contract, who are sick-listed due to psychological problems. The Brainwork Intervention uses an activating approach, whereby in the early stage of sick leave, the sick-listed workers are encouraged to exercise and undertake other activities concurrently with their job search.

Objective

The objective of this paper is to describe the 'Brainwork Intervention' and present the design of a controlled clinical trial to study its effectiveness in reducing the duration of sick leave for sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts who have psychological problems and to compare this intervention to the usual care.

METHODS/DESIGN

This study is being conducted as a two-armed quasi-randomized controlled clinical trial with a follow-up period of one year. To describe the design of the trial, the CONSORT statement, was followed [21,22].

Intervention

Brainwork Intervention

To optimize the sickness absence counselling of sick-listed workers without an employment contract who have psychological problems, occupational health (OH) professionals of one of the front offices of the Dutch SSA developed the Brainwork Intervention. The intervention is optimized by categorizing the sick-listed workers and targeting social-medical interventions to the specific categories of workers. The core elements of the Brainwork Intervention are: (1) personal attention given by the OH professional to the sick-listed worker through face-to-face contact, within five working days after the SSA received the sick report; (2) classification of the worker based on the severity of the psychological problems, the degree of functional impairments or loss of control and estimated recovery time of the sick-listed worker by the IP (see Table 1); (3) early activation of the worker and provide structure to the worker by formulating explicit goals and timetables for recovery, the early reintegration into primary paid work and if necessary, enhancing work experience or carrying out volunteer work, and an exercise program; (4) referral of the worker to additional specific psychological and/or social interventions such as psychological treatment (e.g., dealing with coping problems or eye movement desensitization and reprocessing (EMDR) for persons with impaired trauma counselling) and debt counselling; (5) facilitating a timely internal work process for the SSA by optimizing the collaboration between the OH professionals involved (IP, vocational rehabilitation counsellor, labour expert, nurse practitioner, secretary); (6) intensive vocational counselling by the SSA; (7) counselling by a vocational rehabilitation agency.

The Brainwork Intervention uses an activating approach: in the early stage of sick leave, the sick-listed workers are encouraged to exercise and undertake activities aimed at regaining control and functional recovery, while job coaches actively

Table 1 Brainwork category classification

Category 0	Category 1	Category 2	Category 3
Estimated recovery	Estimated recovery	Estimated recovery	Estimated recovery
<2 weeks	<3 months	3–12 months	>12 months or unknown
Very mild problems	Mild psychological problems	Moderate–severe psychological problems include somatisation	Severe psychological problems, clinical admission or day care treatment
	OR	***OR***	
	Very mild problems with (severe) psychosocial problems and/or inadequate coping	Mild psychological problems with (severe) psychosocial problems and/or inadequate coping style	
	OR		
	Moderate–severe psychological problems with adequate coping		
No functional impairments	Functional impairments (loss of control)	Severe functional impairments	Severe functional impairments to inability for functioning

The Brainwork Intervention is applicable for category 1 and 2

support their search for (temporary) jobs. The tailored content of the intervention varies depending on the severity of the psychological problems and specific psychosocial problems the sick-listed worker must address. The components of the intervention include an exercise program, vocational training, gym membership and attention tailored to their mental and/or psychosocial problems. All interventions are combined with guidance from vocational rehabilitation agencies and explicit goals and timetables for recovery (see Figure 1 for an overview of the Brainwork Interventions per category). It is expected that this approach will lead to functional recovery and reduction of sick leave duration of the sick-listed worker.

Rationale of the Brainwork Intervention

Hereafter, the intended mechanisms of the Brainwork Intervention components are described. (1) Face to face contact: by having a personal conversation at an early stage, the worker will feel as if his problems are taken seriously. This contact encourages the worker to make the required commitment to the intervention, which is required for achieving a positive outcome. (2) Category classification: shortly after inclusion of the worker in the program, the IP classifies the worker into a category based on the IP's assessment of the worker's functional impairments and estimated recovery time. A stepped care approach is used, which allows a worker with an estimated favourable recovery (estimated recovery within 3 months) to receive less intense and shorter sickness absence counselling. The classification delineates other elements of the Brainwork Intervention, namely goal-setting, increasing the efficiency of SSA work processes and worker referrals to specific interventions. The IP is asked to provide a recovery estimation of the worker based on the severity of his psychological problems and functional impairments, as well as RTW prognostic factors such as health expectations, RTW expectations and the perceived health of the worker, age, and personal factors such as education level [3,20,23]. (3) Motivate to activate: this element is designed to provide active day care for the worker. In groups with varying psychological disorders, it has been demonstrated that activation promotes recovery from mental complaints and increased functioning [24,25]. (4) Goal-setting: setting explicit goals regarding activity level of the worker and the final RTW date (or maximum duration of the sickness benefit period) is part of the Brainwork

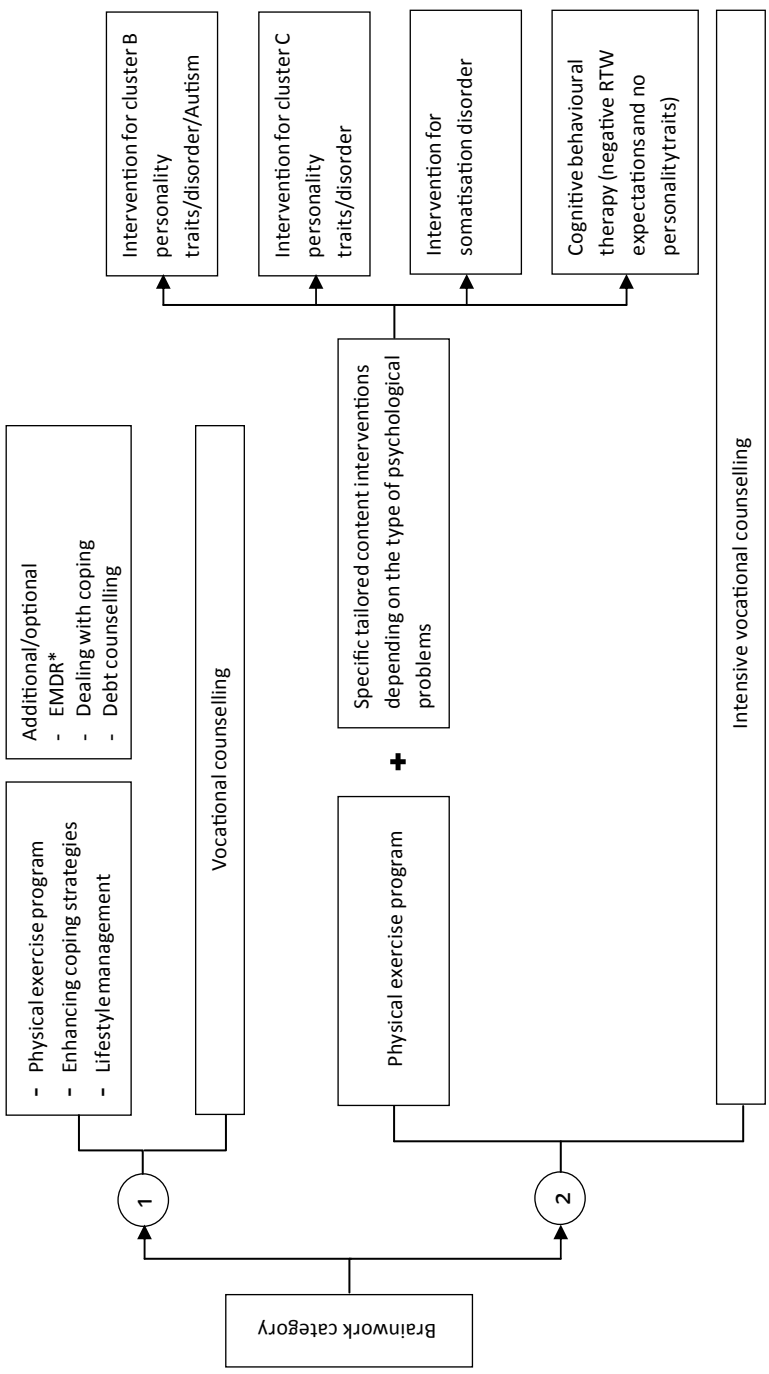

Figure 1 Brainwork Intervention

Intervention. Defining the expected recovery period will give the Brainwork participant a better perspective on his recovery, increase his sense of control, encourage a faster recovery and reduce the number of psychological complaints [26-28]. (5) Providing advice for daily structure: Brainwork participants are advised to maintain a good day structure by getting up at a specific predetermined time and planning an activity for the morning. The activity can be, for example, a visit to the gym but is not limited to exercise. This advice creates a better day-structure for the worker and may promote the recovery from mental complaints and increased functioning [24,25]. (6) Guidance to work: because work is a structuring activity, it is considered to have a positive impact on the recovery from mental complaints and increased functioning because it leads to a clear day-structure and more active day care. In addition, having a work perspective focuses the worker on improving, which has a positive effect on recovery from complaints and improved functioning. Furthermore, because there is a fast start of activities aimed at RTW and paid labour, a shorter duration of sick leave is anticipated. (7) Increased efficiency of the internal SSA work process: by optimizing the collaboration between multiple OH professionals, the prompt handling of requests regarding sickness benefit claims and quick referral to external intervention partners reduces the turnaround time and facilitates early RTW. (8) Timely referral for interventions: depending on the initial category classification of the worker, a protocol-based quick referral to external intervention partners may follow for those workers for whom a quick recovery is not expected. This method promotes a quick start of the Brainwork Intervention and is considered to have a positive effect on the mental complaints and functional recovery of the worker.

Usual care

The control group is receiving counselling according to care as usual. This care consisted of minimal involvement by the IP and, to a lesser extent, of other OH professionals. In this scenario, the active sickness absence counselling starts at a later time point during the sick leave process. Furthermore, there is minimal referral to external intervention partners and, if referred, it does not occur using the stepped care approach, which is based on the classification category assigned in the intervention group. Finally, early reintegration into primary paid work or

enhancing work experience is not the main goal of usual care. We will record the interventions received by the workers in the control group.

Study design

Participants are allocated to two groups: an intervention group, in which the participants receive the Brainwork Intervention and a control group, in which participants receive usual care (see Figure 2). The study was presented to the Medical Ethics Committee of the Academic Medical Center (AMC), University of Amsterdam. The Medical Ethics Committee declared that the study design did not require comprehensive ethical review, as the Medical Research Involving Human Subjects Act does not apply to this study [29]. Besides the decision of the Medical Ethics Committee, the study has to adhere to Research Code of AMC. This study is listed in the Netherlands Trial Register (NTR) under NTR4190.

Setting

The controlled clinical trial is conducted in collaboration with three front offices of the Dutch SSA across the Netherlands (Hengelo (east), Rotterdam (south-west), Den Bosch (south)), vocational rehabilitation agencies, mental health institutions/ professionals and companies that specialised in activating rehabilitation programmes consisting of physical exercise, dealing with coping and lifestyle management.

Study population

The population in this study consists of unemployed and temporary agency workers and workers with expired fixed-term contracts, who live in the eastern, south-western or southern part of the Netherlands and when sick-listed are the responsibility of the three participating front offices of the Dutch SSA. The inclusion criteria are: (1) being an unemployed or temporary agency worker or worker with an expired fixed-term contract; (2) between 18 and 64 years of age; (3) sick-listed and not expected to RTW within two weeks after reporting sick or contact with the vocational rehabilitation counsellor of the SSA; (4) having psychological problems/complaints as the main reason for a sickness benefit claim; and (5) adequate command of the Dutch language. The exclusion criteria are: (1) recent pregnancy or up to three months after delivery; (2) substance addiction (alcohol, drugs and medicines) as the main reason for a sickness benefit

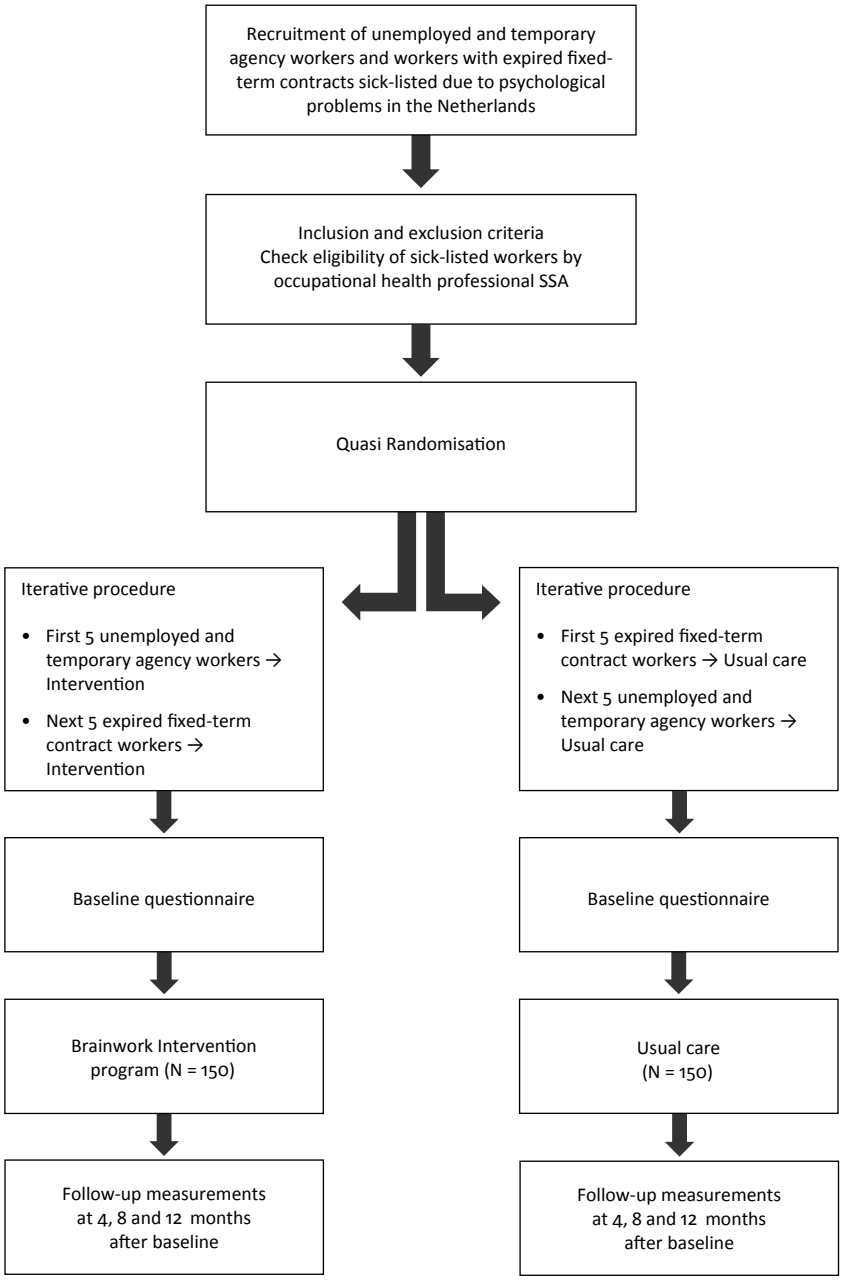

Figure 2 Design of the study

claim; (3) having a severe psychiatric disorder with an expected recovery of more than one year (e.g., hospitalization or day treatment).

Procedure

Recruitment of participants

The sick-listed workers with psychological problems from one of the three participating front offices of the SSA are included in the study if they meet the inclusion criteria. After inclusion in the study, the workers receive a letter from the staff IP of the appropriate SSA front office, on behalf of the investigators. The purpose of this letter is to provide information about the study and to ask for the workers cooperation (informed consent) in completing questionnaires during the study. In addition, the workers also receive an informational flyer containing additional details about the study, a baseline questionnaire, an informed consent form, a refusal form for those not willing to complete the questionnaires, and a return envelope for the baseline questionnaire or refusal form. At follow-up, only the sick-listed workers who signed an informed consent form to fill the questionnaires are approached. Evaluation of the workers' questionnaires takes place at baseline, and 4, 8 and 12 months after the SSA received the sick report. The questionnaires are sent to the participants' home addresses.

Recruitment and training of occupational health professionals

At each SSA office, an existing team of OH professionals is designated as an intervention team and one as a control group team. An OH professional team consists of insurance physicians, vocational rehabilitation counsellors, labour experts, at least one nurse practitioner and secretaries. Instruction and coaching sessions are held for all of the OH professionals on the intervention team. Members of this team also receive a syllabus with detailed information about the Brainwork Intervention, the protocol, practical summaries, flowcharts, a schedule of actions and the registration forms to aid in the application of this new intervention. Furthermore, team members receive a two-day training in motivational interviewing. The training provides the OH professionals with the motivational interviewing skills necessary to activate the sick-listed workers' participation in the Brainwork Intervention, to initiate positive behavioural changes and to address resistance to change of the sick-listed workers.

Randomisation

Quasi randomisation is conducted at the participant (workers) level at each of the three participating front offices of the Dutch SSA. Because workers with expired fixed-term contracts are registered later during the sick leave process, the Brainwork Intervention also begins later for this group. Therefore, the sick-listed workers are pre-stratified based on the type of worker (i.e., unemployed and temporary versus expired fixed-term contracts) to ensure equal distribution of the different types of workers in the control and intervention group. Because a blinded allocation is impractical and difficult to set up in the practice of the Dutch SSA, the following allocation scheme is used: the first five sick-listed unemployed and temporary agency workers with psychological problems, as identified by each participating Dutch SSA front office, and who met the inclusion criteria are allocated to the intervention group. The first five workers with expired fixed-term contracts having psychological problems are allocated to the control group. The next five sick-listed unemployed and temporary agency workers having psychological problems are allocated to the control group, while the next five workers with expired fixed-term contracts are allocated to the intervention group and so on. The person who allocated the worker to either control or experimental group is unaware of the type or severity of the psychological problem, or of any other participant characteristics.

Blinding

Participants, OH professionals and intervention partners such as vocational rehabilitation agencies and mental health institutions/professionals are not blinded to the intervention. Blinding was deemed unnecessary because the Brainwork Intervention contains several new elements compared to usual care including, category classification, a protocol-based approach and contracting of vocational rehabilitation agencies. Because the SSA registers sickness benefits, these measurements are derived from the computerised SSA database. Therefore, any bias due to lack of blinding is prevented for the primary outcome. Furthermore, most secondary outcome measures are self-reported, and thus, blinding to the participant groups is not possible. After inclusion in the study, all participants receive a research code. All data will be entered in the computer by a research assistant, using this research code, in order to guarantee that analyses of the data by the researcher will be anonymous.

Measures

Primary outcome

Duration of sick leave

The primary outcome measure in this study is duration of sick leave and operationalised as duration of the sickness benefit period (in days) from the first day of reporting sick until the end of the sickness benefit. The sickness benefit ends after a full RTW (e.g., for temporary agency workers) or if the participant is declared fit for work (e.g., for unemployed workers). Data on sickness benefit duration are continuously registered by the SSA and will be acquired from the SSA database six months after inclusion of the last participant and after a one-year follow-up period. Because the SSA registers all the data regarding sickness benefit claims, a loss of data to follow-up with regard to the primary outcome is not expected.

Secondary outcomes

Proportion of subjects returned to work

The proportion of the subjects who returned to work is operationalised as the proportion who ended sickness benefit claims and will be measured at 8 and 12 months after the date that the SSA received the sick report. Data are acquired from the SSA database.

Duration from SSA transfer to RTW

The duration from SSA transfer to RTW is operationalised as the actual duration that the sick-listed worker was under counselling by the front office of the SSA until the end of the sickness benefit. When unemployed and temporary agency workers report themselves sick, first the back office of the SSA is notified. It may take two to four weeks before the front office of the SSA receives the sick report. Only after the front office receives the report can the sickness absence counselling begin. Workers with expired fixed-term contracts (those whose contracts expired while they were sick-listed) will register at the SSA later in the sick leave process than the unemployed and temporary agency workers because the contract workers have an employer at the time of reporting sick. At this registration, the SSA receives all data from the start of the sick leave onwards, from the former employer and occupational health service related to the employer. After expiration of the fixed-term contract, the SSA becomes responsible for the

sickness benefit claim, so the actual duration of SSA counselling for this sick-listed worker is shorter then the duration of sick leave. Data are continuously recorded and will be acquired from the SSA database.

Number of days of paid employment during follow-up
The number of days of paid employment during the follow-up period will be obtained from both the SSA database and the self-reported information in the questionnaires at 4, 8 and 12 months after the SSA received the sick report.

Degree of participation
The degree of participation can vary between being inactive, doing volunteer work, working in a work experience situation (real labour experience without wage) and paid work. The degree of participation will be obtained from both the SSA database and the self-reported information in the questionnaires at 4, 8 and 12 months after the SSA received the sick report (ordinal scale: inactive/ volunteer/ labour experience/paid work).

Psychological complaints
Psychological complaints are measured using the Dutch translation of the General Health Questionnaire-12 (GHQ-12) at baseline, and 4, 8 and 12 months after the SSA received the sick report [30].

Self-efficacy for return to work
Self-efficacy as related to work performance after sick leave is measured with a validated RTW self-efficacy questionnaire at baseline, and 4, 8 and 12 months after the SSA received the sick report [31].

Costs and benefits from SSA perspective

Costs and benefits from the SSA perspective refer to the incremental costs and benefits of the Brainwork Intervention. Incremental costs are the costs of the Brainwork Intervention minus the costs of the usual care. The incremental benefits are the benefits of the Brainwork Intervention minus the benefits of the usual care. Costs associated with Brainwork are the training and educational costs for the OH professionals, the wage of the OH professionals and the costs of

the Brainwork Intervention. Costs for usual care include the wage of the OH professionals and the costs of the interventions if deployed. Benefits for both groups are associated with savings in sickness and unemployment benefit claims. In the context of this study there are only benefits from the SSA perspective if the sick-listed worker returned to paid work after the end of the sickness benefit claim. The ending of the sickness benefit claim by returning to the unemployment benefit is not beneficial for the SSA because the SSA is also responsible for the unemployment benefit claims. Data will be acquired from the SSA database.

An overview of the outcome measures and the measurement instruments used, including a time path for all measurements, is presented in Table 2. Quantitative indicators for process measurement will be obtained from the SSA database.

Sample size and power analysis

A power analysis was performed to calculate the required number of participants in this study. The mean and standard deviations of the duration of sick leave of all sick-listed workers without an employment contract having psychological problems who registered at the SSA in 2011 were taken as a starting point. Because there are no data available from previous studies on the expected differences, we only calculated how many participants are needed to display any differences in duration of sick leave. The power analysis using program nQuery Advisor showed that 144 participants are needed per group (288 total) to detect a mean difference in duration of sick leave of 40 days. Therefore, we decided to include 300 participants for this study.

Data analysis

All statistical analyses will be performed at worker's level according to the intention-to-treat principle. To check the success of the quasi randomisation procedure similarities in the descriptive statistics will be determined, comparing the baseline measurements of both groups. If necessary, the main analyses will be adjusted for prognostic dissimilarities. For those aspects of the protocol which were fixed for all participants, such as personal attention given by the OH professional to the sick-listed worker through face-to-face contact within five working days after the SSA received the sick report, or timely referral of the worker to the external

Table 2 Overview of outcome measures and their instruments and time path

	Time path				
	Baseline T0	**4 months T1**	**8 months T2**	**12 months T3**	**Continuous (until 12 months)**
Data instruments					
Dutch SSA* Database					X
Questionnaires 1 to 4	1	2	3	4	
Measurements					
Primary outcome					
Duration of sick leave *(SSA Database)*					X
Secondary outcome					
Proportion of subjects returned to work at 8 and 12 months *(SSA Database)*			X	X	
Duration from transfer to the SSA until RTW *(SSA Database)*					X
Number of days of paid employment during follow-up *(questionnaire and SSA database)*		X	X	X	
Degree of participation *(questionnaire and SSA database)*		X	X	X	
Psychological complaints *(questionnaire)*	X	X	X	X	
Self-efficacy for return to work *(questionnaire)*	X	X	X	X	
Costs and benefits from SSA perspective *(SSA Database)*					X

*Dutch SSA = Dutch Social Security Agency

intervention partner, the protocol deviations will be analyzed. To assess the presence of bias due to protocol deviations, the results of the intention-to-treat analyses will be compared to per-protocol analyses.

Effect evaluation

To assess the effectiveness of the Brainwork Intervention for the primary outcome, a Linear Mixed Models (LMM) analysis of the differences between the average sick leave duration (in days) in the intervention and control group will be performed. Therefore, a model with group as fixed factor and the vocational rehabilitation counsellor of the SSA at a primary hierarchical level and the participants at a secondary hierarchical level (where appropriate) will be built. For all participants who have not returned to work after 1 year of follow-up, the value of 365 days of sickness absence will be imputed.

For the secondary outcomes, excepting costs and benefits, LMM analysis for continuous outcomes and Generalized Linear Mixed Models analysis for dichotomous/ ordinal outcomes will be performed. Therefore, a model with group as fixed factor and the vocational rehabilitation counsellor of the SSA at a primary hierarchical level and the participants at a secondary hierarchical level (where appropriate) will be built. In the case of differences in the ratios between the types of workers (unemployed and temporary agency versus expired fixed-term contract) due to attrition, a correction for the differences will be performed by including type of worker as a covariate in the analysis.

Costs and benefits from SSA perspective

The costs and benefits from SSA perspective will be determined by incremental costs (Brainwork minus control) and incremental benefits (Brainwork minus control) of the Brainwork Intervention. The benefits are savings in sickness and unemployment benefits claims.

DISCUSSION

In this pragmatic controlled study we will evaluate the effectiveness of an intervention in real occupational health practice. We expect to observe a reduction in sickness absence and an increase in RTW (in paid work) with all potential benefits for mental health outcomes associated with working [32-34]. Many of the requirements for a high quality trial are being met. The results will contribute to an evidence-based approach to occupational health care for workers without an employment contract who are sick-listed due to psychological problems. Positive results in this study may lead to implementation of the Brainwork Intervention in the Netherlands. In addition, the results may offer a perspective for the further development of RTW interventions for workers sick-listed due to physical health problems.

Methodological considerations

The design of our trial is considered feasible for the assessment of the effectiveness of a RTW intervention and fits well in the daily practice of the Dutch insurance physician. In this pragmatic trial, effectiveness instead of efficacy is studied. This increases the applicability of the intervention and has the advantage that the results will be more in line with daily occupational health practice, resulting in a high external validity [35-38].

The strength of this study is the data collection from a social security database, which contains accurate information on our primary outcome measure, duration of sick leave. Accurate information can be obtained from this database because these data are used for calculating sickness benefit claims. Register-based data, which are used for calculating earnings, are considered to be a gold standard [39-42] and prevent recall bias [40]. As a result, loss of primary outcome data due to the loss of the worker to follow-up is not expected. Thus, this study has a low risk of attrition bias. Deriving primary outcome data from the database also leads to a low risk of detection bias, despite the lack of blinding to the sick-listed workers, OH professionals and the intervention partners that are allocated to the intervention or control group. However, concerning one secondary outcome measure (number of days of paid employment during follow-up), data on RTW

are also collected from self-report questionnaires because the Dutch SSA, in many cases, no longer retains data on RTW after sickness benefits have ended. As such, data collection from the database alone might underestimate RTW during the one-year follow-up.

Because the activating approach of our intervention is a well-known concept and described in detail, we expected that the results of this study are generalizable and applicable in other countries.

The short-term results of this study are described in Chapter 7.

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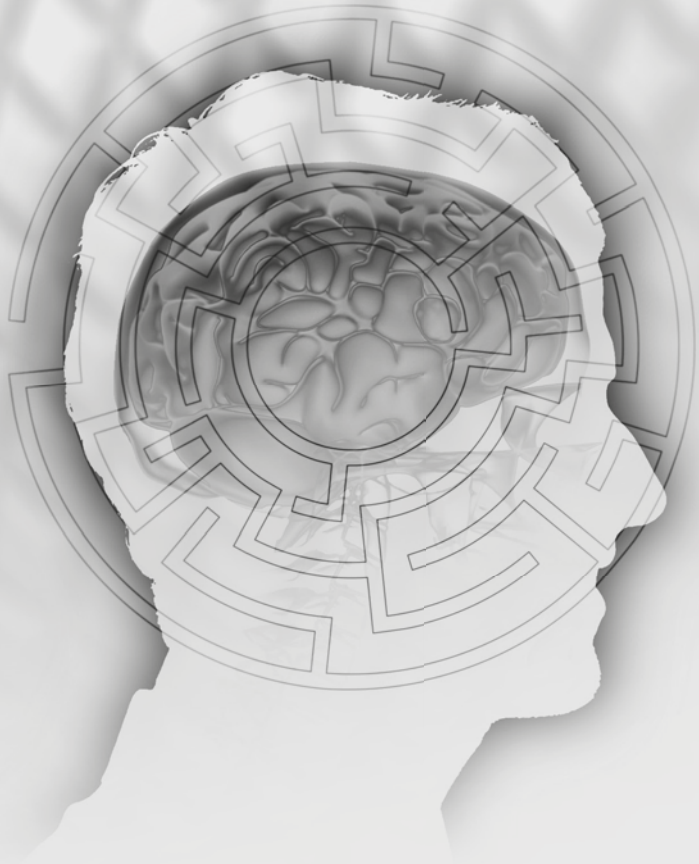

CHAPTER 7

Is the "Brainwork Intervention" effective in reducing sick leave for non-permanent workers with psychological problems? Results of a controlled clinical trial

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Submitted for publication.

ABSTRACT

Purpose

Unemployed, temporary agency and expired fixed-term contract workers having psychological problems are a particularly vulnerable group, at risk for sickness absence and prolonged work disability. A return-to-work (RTW) intervention called "Brainwork" was developed. The aim of this study was to assess the effectiveness of the 'Brainwork Intervention' (BWI) in reducing the duration of sick leave compared to usual care (UC) over a six-month follow-up.

Methods

In a controlled clinical trial, we compared BWI (n = 164) to UC (n = 156). The primary outcome was duration of sick leave. Secondary outcomes were duration of sick leave starting from Social Security Agency transfer, number of hours of paid employment during the follow-up period, degree of worker participation, level of psychological complaints and self-efficacy for RTW. Protocol adherence (BWI) was considered sufficient when at least three of the five protocol steps were followed. Cox regressions, linear and ordinal regression, and Mixed Model analyses were performed.

Results

The BWI resulted in a non-significant reduction of the duration of sick leave compared to UC (171 days versus 185 days; HR = 1.34; 95% CI 0.91–1.97; p = 0.14). For those working (26%) during the six-month follow-up, the mean number of hours of paid employment was significant higher in the UC group (443 hours versus 257 hours; p = 0.005). No significant differences were found for other secondary outcomes. Protocol adherence was 10%.

Conclusions

The BWI as performed did not result in a significant reduction of the duration of sick leave compared to UC.

Trial registration

The Netherlands Trial Register (NTR); NTR4190.

INTRODUCTION

Psychological problems are highly prevalent in the general and working populations [1-4]. Sickness absence due to psychological problems such as depression, anxiety and stress-related disorders is increasing in many high-income countries, contributing substantially to disability benefits and permanent exclusion from the labor market [5-8]. Only 50% of the workers sick-listed for six months or more due to psychological problems return to work (RTW) [8].

Among the working population, unemployed and temporary agency workers and workers with expired fixed-term contracts are at even greater risk for sickness absence and prolonged work disability due to psychological problems [9-12]. These workers who are without a permanent employment contract, also known as non-permanent workers, represent a particularly vulnerable group within the working population. In the Netherlands, non-permanent workers have a three times greater risk of becoming long-term work disabled (>18 months) compared to workers with a permanent employment contract (employed workers) [13]. Compared to sick-listed employed workers, sick-listed non-permanent workers perceive their health status more negatively and encounter more psychosocial barriers (such as personal problems, debts, addiction, legal proceedings, care issues) for their RTW [10,11,14,15]. Moreover, these workers experience a greater distance to the labor market compared to sick-listed employed workers as there is no workplace to return to when sick-listed [14].

In recent years, relatively more workers have become non-permanent workers, due, in part, to the worldwide economic crisis and changing labor market conditions [10,16-18]. To illustrate the increase in non-permanent workers in the Netherlands, in 2013 more than a quarter of the active labor force was working on a temporary basis, compared to almost 18 percent in 2001 [19]. Considering the growing rate of non-permanent workers, the increasing rate of sick leave due to psychological problems and the higher risk for prolonged work disability in this group, it is surprising that the development of effective RTW interventions for non-permanent workers is lagging behind [20]. As a result, there is a growing need to develop RTW interventions for these workers that address the absence

of a workplace to which they can return. Focusing on the ability to work is important since working even a few hours during the RTW process is a strong predictor for successful RTW [21].

In the Netherlands, the sickness absence counseling of non-permanent workers is conducted by a team of occupational health (OH) professionals from the Dutch Social Security Agency (SSA). The team of OH professionals consists of an insurance physician (IP), vocational rehabilitation counselor, labor expert, nurse practitioner and secretary. The current sickness absence counseling of non-permanent workers (usual care) is not structured according to a fixed protocol. Furthermore, there is no protocol for the referral to RTW programs. Professionals of the SSA developed the Brainwork Intervention for non-permanent workers who are sick-listed due to psychological problems. The Brainwork Intervention uses an activating approach, which means that in the early stage of sick leave (within two to five weeks), the workers are encouraged to engage in physical exercise and undertake activities aimed at regaining control and functional recovery while job coaches actively support their search for jobs (temporary or otherwise). The content of the intervention varies and is tailored to the severity of the psychological problems and functional impairments, as well as to the specific psychosocial problems encountered by the sick-listed worker. The interventions were given by OH professionals in collaboration with external partners (e.g., vocational rehabilitation agencies and mental health institutions/ professionals) specialized in addressing the target group. It is expected that this approach will lead to functional recovery and reduce the sick-leave duration of the sick-listed worker.

The main aim of this study was to assess the effectiveness of the Brainwork Intervention in reducing the duration of sick leave for non-permanent workers with psychological problems compared to usual care. A secondary aim was to assess the effectiveness of the Brainwork Intervention on the: (1) duration of sick leave starting from SSA transfer; (2) degree of worker participation; (3) number of hours of paid employment during follow-up; (4) level of psychological complaints; and (5) self-efficacy for RTW.

METHODS

Study design and setting

The present multicenter study is a two-armed quasi-randomized controlled clinical trial (CCT) with a follow-up period of six months. This study was carried out in collaboration with three regional offices of the SSA across the Netherlands (east, south-west, south regions). Participants were allocated to two groups: an intervention group that received the Brainwork Intervention and a control group that received usual care. The design and procedures of the study have been described in detail in an earlier publication of the study protocol [22].

Study population

Between January 2014 and September 2014, all newly received sick reports of non-permanent workers from the participating SSA offices who met the inclusion criteria were included in the study until the required number of at least 300 participants was reached. The inclusion criteria were: (1) being an unemployed or temporary agency worker or worker with an expired fixed-term contract; (2) age between 18 and 64 years; (3) being sick-listed and not expected to RTW within two weeks after either reporting sick or having contact with the vocational rehabilitation counselor of the SSA. (An RTW expectation within two weeks of reporting sick corresponds to Brainwork category classification 0; see Table 1 in Chapter 6); (4) having psychological problems/complaints as the main reason for a sickness benefit claim; and (5) having adequate command of the Dutch language. The exclusion criteria were: (1) recent pregnancy or up to three months after delivery; (2) substance addiction (alcohol, drugs or medicines) as the main reason for a sickness benefit claim; (3) having a severe psychiatric disorder with an expected recovery of more than one year, e.g., hospitalization or day treatment. (This corresponds to Brainwork category classification 3; see Table 1 in Chapter 6).

In the regular work process of the SSA, each sick-listed worker (i.e., intervention and control group) receives a segmentation code by the nurse practitioner or IP within two weeks after the SSA received the sick report. The code indicates the professionals' estimated duration for sick leave based on a self-report SSA-specific questionnaire. The questionnaire includes, among other things, topics about

health complaints, the tasks the worker cannot perform due to the complaints, RTW expectancy of the worker, information about medical treatment and whether the worker performs volunteer work. Four segmentation codes can be distinguished: code 1 indicates a sick-leave duration of less than 13 weeks; code 2 a sick-leave duration of between 13 and 52 weeks: code 3 a sick-leave duration of between 52 and 104 weeks; and code 4 indicates no expectancy of recovery or work participation. For our study, segmentation codes 1 and 2 were relevant. These codes correspond to the Brainwork category classification 1 (estimated recovery <3 months) and 2 (estimated recovery 3 to 12 months). See Table 1 in Chapter 6 for an overview of the Brainwork category classification of the worker.

The power analysis obtained using the nQuery Advisor program showed that 144 participants were needed per group (288 total) to detect a mean difference in duration of sick leave of 40 days [22].

The Medical Ethics Committee of the Academic Medical Center in Amsterdam (AMC), University of Amsterdam approved the study design. The study was listed in the Netherlands Trial Register (NTR) under NTR4190.

Procedure

Participants

After inclusion in the study, the workers received a letter from the staff IP of the appropriate regional SSA office, on behalf of the investigators. The purpose of this letter was to provide information about the study and to ask for the worker's cooperation (informed consent) in completing questionnaires during the study. At follow-up, only the sick-listed workers who signed an informed consent to fill the questionnaires were approached for follow-up questionnaires.

Occupational health professionals

At each SSA office, an existing team of OH professionals was designated as an intervention team and one as a control group team. Instruction and coaching sessions were given to all of the OH professionals on the intervention team. Furthermore, team members received a two-day training course in motivational interviewing. The training provided the OH professionals with the motivational

interviewing skills necessary to activate the sick-listed workers' participation in the Brainwork Intervention, to initiate positive behavioral changes and to address sick-listed workers' resistance to change.

Interventions

Brainwork Intervention

The rationale of the Brainwork Intervention, the Brainwork category classification of the worker and an overview of the Brainwork Interventions per category have been described in detail elsewhere [22], see Table 1 and Figure 1 in Chapter 6. Briefly, the Brainwork Intervention is designed to assist non-permanent workers who are sick-listed due to psychological problems with their RTW. Within five working days of the SSA receiving the sick report, a face-to-face contact takes place between the OH professional and the sick-listed worker. The customized content of the intervention varies depending on the severity of the psychological problems and the specific psychosocial problems the sick-listed worker needs to address. The components of the intervention can include an exercise program, vocational training, gym membership, and attention tailored to their mental and/or psychosocial problems (e.g., dealing with coping problems or eye movement desensitization and reprocessing (EMDR) for persons with impaired trauma counseling). All interventions are combined with counseling by vocational rehabilitation agencies with the aim of achieving reintegration into primary paid work or enhancing work experience. Based on the category classification, explicit goals and timetables for recovery were formulated [22].

Usual care

The control group received counseling according to care as usual in the SSA setting. Usual care consisted of minimal involvement on the part of the IP (one or two patient contacts in a year) and slightly more intensive contact with other OH professionals. In this scenario, the active sickness absence counseling starts at a later point in time during the sick-leave process, which in practice can range from a few weeks to six months after reporting sick**.** An SSA file search in 2008 showed that it took an average of 10 weeks before the first contact of the sick-listed worker with the IP occurred [23]. Furthermore, it was found that a late start (≥8 weeks) of the sickness absence counseling, a late first IP assessment (≥10 weeks)

and fewer IP assessments (<1 contact in 12 weeks) during the sick-leave period were associated with a longer duration of sick leave. Due to the absence of a protocol for referral to RTW programs, the use of RTW interventions remains limited in usual care**.** In contrast to the Brainwork Intervention group, in usual care, early reintegration into primary paid work or enhancing work experience is not an explicit goal. The main tasks of the IP in usual care are to evaluate the sickness benefit claim of the sick-listed worker and the workers' fitness for work, while the main tasks of other OH professionals are to monitor the sick-listed worker, e.g., to check if the worker is complying with the rules of the sickness benefit act by seeking medical treatment for his complaints and if the symptoms of the worker are improving. The interventions received by the workers in the usual care group were registered.

Outcome measures

Data collection

Data regarding sickness benefit duration, paid employment during follow-up and degree of participation are continuously registered by the SSA and were routinely collected from the computerized SSA database. We used data from a follow-up period of six months after the date on which the SSA received the sick report. Data regarding psychological complaints and self-efficacy for RTW were collected from self-reported questionnaires at baseline and four months after the SSA received the sick report. Data entry of the self-reported data was performed by a research assistant using a unique code for each participant.

Primary outcome

The primary outcome measure was duration of sick leave and operationalized as duration of the sickness benefit period (in calendar days) from the first day of reporting sick until the termination of the sickness benefit. The sickness benefit ends after a full RTW (e.g., for temporary agency workers) or if the participant is declared fit for work by the IP (e.g., for unemployed workers).

Secondary outcomes

The secondary outcome measures available at this time point were duration of sick leave starting from SSA transfer, number of hours of paid employment during

follow-up, degree of participation, psychological complaints and self-efficacy for RTW. The duration of sick leave starting from SSA transfer is operationalized as the actual duration (in calendar days) that the sick-listed worker was under counseling by the regional office of the SSA until the termination of the sickness benefit. The degree of participation was coded in the ordered categories of: no participation, non-paid work (volunteer work or working in a work experience situation) and paid work, consecutively.

Psychological complaints were measured using the Dutch translation of the General Health Questionnaire-12 (GHQ-12) [24]. The GHQ-12 is one of the most common mental health tools in use and a well-established screening instrument designed to detect non-psychotic psychiatric disorders in people in community and medical settings. It is a 12-item self-report questionnaire concerning the respondent's assessment of his or her present mental health state. Each item is rated on a four-point response scale. Using the scoring method (0-1-2-3), the sum score ranges from 0 to 36. Low scores reflect better mental health. **'**Self-efficacy for RTW' was measured using a validated 11-item RTW self-efficacy questionnaire, with response categories on a 6-point scale [25]. Participants were asked to respond to statements about their jobs, imagining that they would start working their full contract hours again the following day (in their present emotional state/ state of mind). In a pilot study of workers on sick leave due to common mental disorders, this questionnaire had a satisfactory construct validity and good reliability [25]. A mean score across the 11 items was used to compute the scale score. The scale score ranges from 1 to 6. Higher scores reflect higher self-efficacy levels.

Randomization and blinding

Within each of the three participating regional offices of the SSA participants were allocated to the Brainwork Intervention team or usual care team using quasi-randomization. The allocation procedure has been described in detail elsewhere [22]. To ensure equal distribution of the different types of workers in the intervention team and usual care team, the sick-listed workers were pre-stratified based on the type of worker (i.e., unemployed and temporary versus expired fixed-term contracts). Equal distribution of the types of workers in

both teams was important as the starting point of the intervention was different for the subgroups of workers. The person who allocated the worker to either teams was unaware of the type or severity of the psychological problem, or of any other characteristics of the participants.

The participants, OH professionals and intervention partners such as vocational rehabilitation agencies and mental health institutions/professionals were not blinded to the allocation result.

Protocol adherence

The following five protocol steps were used as process measures for adherence to the protocol: (1) telephone contact by the OH professional with the worker within two days of the SSA receiving the sick report; (2) face-to-face contact between the vocational rehabilitation counselor and the worker within five working days of the SSA receiving the sick report; (3) bilateral consultations between the vocational rehabilitation counselor and IP within two days after the face-to-face contact with the worker; (4) consultation of the IP, within one to two weeks of the bilateral consultations; (5) timely start of the intervention within eight working days after consultation of the IP.

The adherence to the protocol was considered sufficient when three of the five protocol steps were followed within the given time frame and with the start of the intervention being timely in all cases.

Statistical analyses

All statistical analyses were conducted at workers' level according to the intention-to-treat principle. To determine whether the quasi-randomization was performed successfully, descriptive statistics were used to compare the baseline measurements of both groups. If necessary, the main analyses were adjusted for prognostic dissimilarities. For those five aspects (process measures) of the protocol which were fixed for all participants, the protocol deviations were analyzed as preparation for the per-protocol analyses. The intention was to compare the results of the intention-to-treat analyses with the per-protocol analyses to assess the presence of bias due to protocol deviations.

Cox regressions analyses were performed to determine hazard ratios between the intervention and control group for the primary outcome duration of sick leave and the secondary outcome duration of sick leave starting from SSA transfer. The cases for whom the sickness benefit had not been terminated at six months follow-up were censored for the Cox regressions analyses. Ordinal logistic regression analysis was performed to determine the odds ratio for degree of participation between the intervention and control group. For those working during the six-month follow-up period, the number of hours of paid employment during follow-up between the intervention and control group were compared with a linear regression model. Linear Mixed Models were used for the secondary outcomes psychological complaints and self-efficacy for RTW, with random parameters for individual baselines and fixed parameters for differential growth between the intervention and control group. Results in all analyses were adjusted for regional SSA office and type of worker (unemployed and temporary agency worker versus expired fixed-term contract worker). All analyses were performed using IBM SPSS Statistics version 22.0. In all analyses, *p*-values at or below 0.05 (two-tailed) were considered to be statistically significant.

RESULTS

Recruitment of participants

During the recruitment period (January 2014 to September 2014), 485 potentially eligible participants were screened. Of these, 320 participants were included in the study. The Brainwork Intervention team counseled 164 participants and the usual care team 156 participants. Reasons for excluding the potentially eligible participants were: (1) expected recovery within two weeks of reporting sick or having contact with the vocational rehabilitation counselor of the SSA; (2) having a severe psychiatric disorder with an expected recovery later than one year; (3) psychological problems/complaints were not the main reason for a sickness benefit claim; (4) no adequate command of the Dutch language; (5) (recent) pregnancy; (6) substance addiction; (7) sickness claim not accepted by the SSA; and (8) not belonging to one of the three participating regional SSA offices. At baseline, 89 participants (28%) signed an informed consent to fill out the baseline questionnaire. Of these, 62 participants (19%) returned the follow-up questionnaire

after four months for the self-reported secondary outcomes (psychological complaints and self-efficacy for RTW). Data regarding the primary outcome duration of sick leave and the secondary outcomes duration of sick leave starting from SSA transfer, number of hours of paid employment during follow-up and degree of participation were available for all workers for the whole six-month follow-up period. An overview of the flowchart of the study is presented in Figure 1.

Baseline characteristics

Table 1 presents a summary of the baseline characteristics of the participants in the intervention and control group. At baseline there were no significant differences in characteristics of participants, and in the available characteristics of psychological complaints and self-efficacy for RTW between either group.

Adherence

In the Brainwork Intervention group, 112 out of 164 (68%) workers actually received the Brainwork Intervention program. For five workers, priority was given to another intervention. Of the 47 workers in the intervention group who did not receive any intervention, the sickness benefit of 23 workers terminated within two months of the SSA receiving the sick report. In 16 workers of the intervention group (10%), at least three of the five protocol steps were followed, including timely start of the Brainwork Intervention program. In the control group, 43 out of the 156 (28%) workers received a usual care intervention. Of the 113 workers in the control group who did not receive any intervention, the sickness benefit of 16 workers terminated within two months of the SSA receiving the sick report.

Primary outcome

Duration of sick leave

The mean duration of sick leave in the intervention group was 171 days (SD 61) versus 185 days (SD 86) in the control group, a mean difference of 14 days. The Cox regression analysis, adjusted for SSA office and type of worker, showed an HR of 1.34 (95% CI 0.91–1.97; $p = 0.14$), indicating a non-significant reduction of duration of sick leave in the intervention group compared to the control group. See Table 2 for the Cox regression results. Figure 2 shows the adjusted cumulative hazard curves for the Brainwork Intervention group and the control group. These curves

show the cumulative chance for both groups that the event (termination of sick leave) occurs over time, indicating a shorter duration of sick leave in the Brainwork Intervention group.

Secondary outcomes

Duration of sick leave starting from SSA transfer

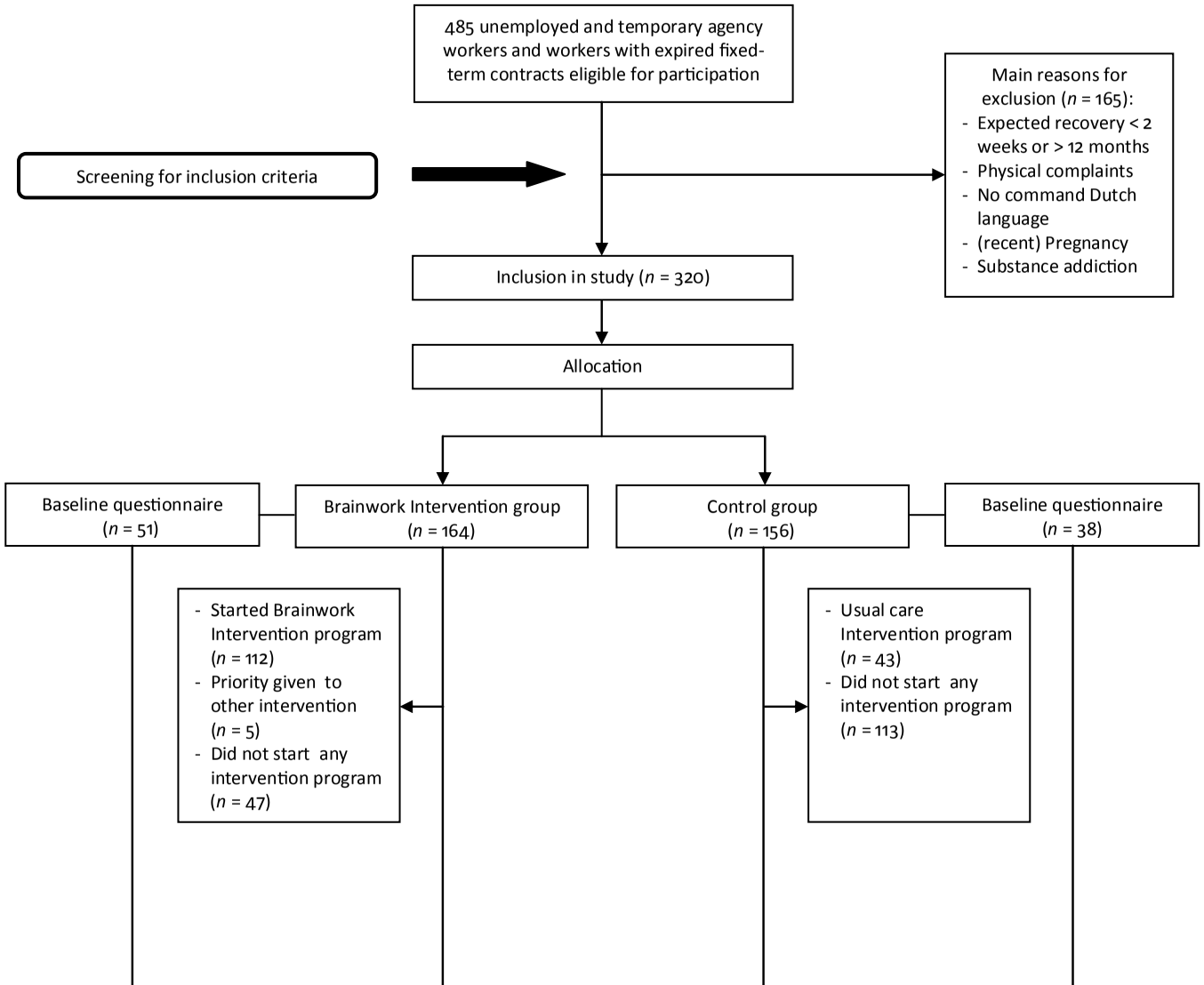
The mean duration of sick leave starting from SSA transfer in the intervention group was 146 days (SD 59) versus 152 days (SD 53) in the control group, a mean difference of six days. The Cox regression analysis, adjusted for SSA office and type of worker, showed an HR of 1.25 (95% CI 0.85–1.83; p = 0.26), indicating a non-significant reduction of duration of sick leave starting from SSA transfer in the intervention group compared to the control group. See Table 2 for the Cox regression results. Figure 3 shows the adjusted cumulative hazard curves for the Brainwork Intervention group and control group, indicating a shorter duration of sick leave in the Brainwork Intervention group.

Number of hours of paid employment during follow-up

During the six-month follow-up, 41 workers in the intervention group and 43 workers in the control group had paid employment. The mean number of hours of paid employment for those working was 257 hours (SD 261) in the intervention group and 443 hours (SD 304) in the control group (group difference in linear regression, adjusted for SSA office and type of worker: p = 0.005). This indicates that for all those working, hours worked in the control group were significantly higher than in the intervention group. Information about contract hours was not available. See Table 2 for the results. When taking all the 320 participants into account, there were no significant differences between the groups.

Degree of participation

Ordinal regression analysis revealed an OR of 1.16 (95% CI 0.72–1.86; p = 0.55; control vs. intervention group), controlling for SSA office and type of worker. This indicates that participation was non-significantly higher in the control group compared to the intervention group.


485 unemployed and temporary agency workers and workers with expired fixed-term contracts eligible for participation
Screening for inclusion criteria
Main reasons for exclusion (n = 165):
- Expected recovery < 2 weeks or > 12 months
- Physical complaints
- No command Dutch language
- (recent) Pregnancy
- Substance addiction
Inclusion in study (n = 320)
Allocation
Baseline questionnaire (n = 51)
Brainwork Intervention group (n = 164)
Control group (n = 156)
Baseline questionnaire (n = 38)
- Started Brainwork Intervention program (n = 112)
- Priority given to other intervention (n = 5)
- Did not start any intervention program (n = 47)
- Usual care Intervention program (n = 43)
- Did not start any intervention program (n = 113)

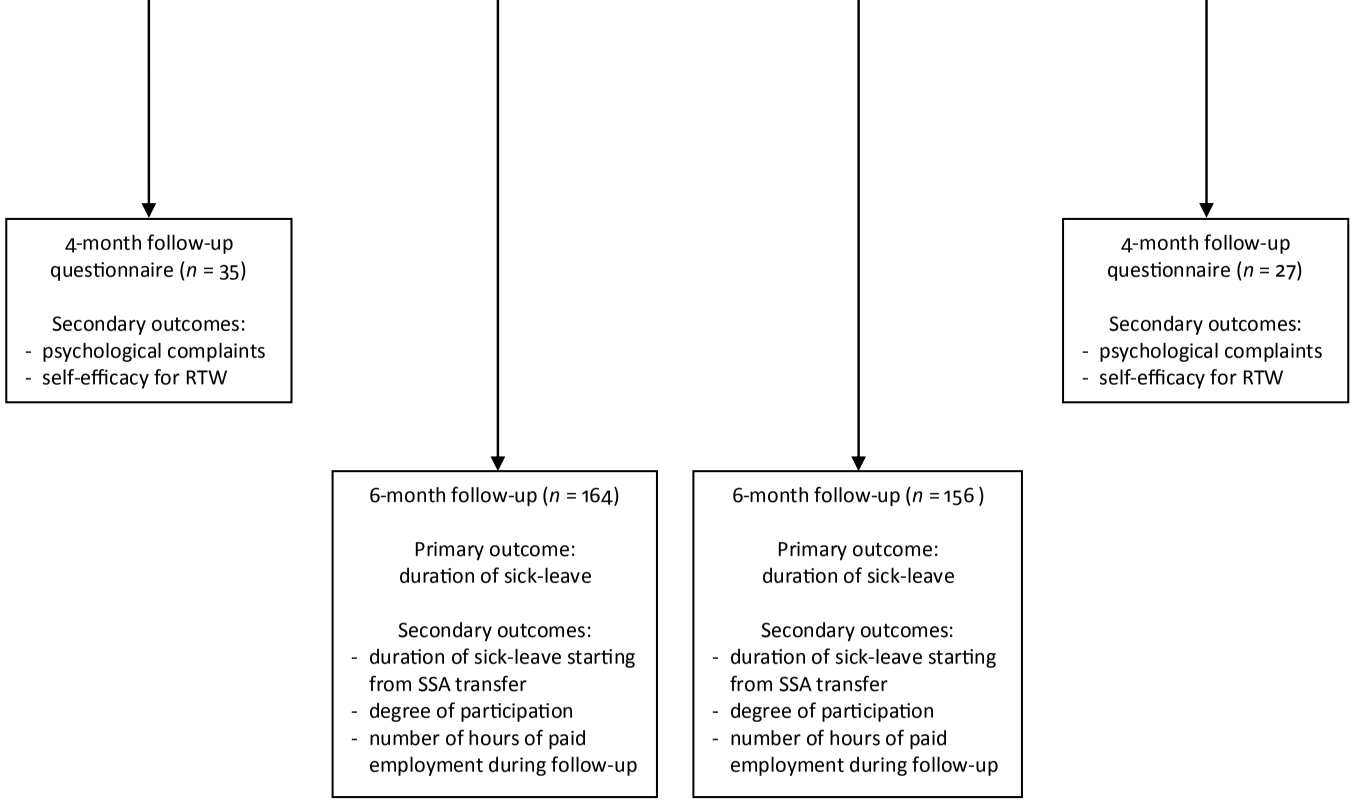


Figure 1 Flowchart of the study

Table 1 Baseline characteristics of non-permanent workers, sick-listed due to psychological problems (*n* = 320)

	Intervention group (*n* = 164)	**Control group (*n* = 156)**
Age, yr (mean ± SD)	40 ± 10.7	40 ± 10.8
Gender (% male)	46.3	45.5
Type of worker (%)		
Unemployed/temporary agency worker	70.1	71.8
Expired fixed-term contract worker	29.9	28.2
Brainwork category[a] (%)		
Category 1	70.6	
Category 2	29.4	
Segmentation code[b] (%)		
Code 1	28.7	19.9
Code 2	71.3	80.1
Psychological complaints (mean ± SD)	28.4 ± 6.9	29.8 ± 6.4
(0 to 36 score) n = 89	*(n* = 51)	*(n* = 38)
Self-efficacy for RTW (mean ± SD)	3.0 ± 1.03	2.6 ± 1.25
(1 to 6 score)) n = 87	*(n* = 49)	*(n* = 38)

[a] Brainwork category 1 = estimated recovery < 3 months
Brainwork category 2 = estimated recovery 3 to 12 months
[b] Segmentation code 1 = estimated sick-leave duration < 13 weeks
Segmentation code 2 = estimated sick-leave duration 13 to 52 weeks

Psychological complaints, and self-efficacy for RTW

Table 3 presents the results of the Mixed Model analyses for psychological complaints and self-efficacy for RTW, adjusted for regional SSA office and type of worker. After four months follow-up, although both groups showed a significant decrease in psychological complaints (adjusted mean difference -5.57 for intervention group and -5.27 for control group), the course of the psychological complaints between the two groups did not differ statistically (p = 0.88). The self-efficacy for RTW increased in both groups (adjusted mean difference 0.26 for intervention group and 0.16 for control group), but no statistical differences were found between the groups (p = 0.72).

Table 2 Cox Regression and Regression analysis results at 6-month follow-up (*n* = 320)

	Intervention group (*n* = 164)	**Control group (*n* = 156)**	**Regression coefficient**	***P***	**Hazard Ratio (95% CI)**
Primary outcome					
Duration of sick leave[a], mean (SD) (days)	171 (61)	185 (86)	0.29	0.14	1.34 (0.91 – 1.97)
Secondary outcomes					
Duration from SSA transfer to RTW[a], mean (SD) (days)	146 (59)	152 (53)	0.22	0.26	1.25 (0.85 – 1.83)
Number of hours of paid employment during follow-up[b], mean (SD) (n = 84)	257 (261) (n = 41)	443 (304) (n = 43)	- 184.59	0.005	
Degree of participation[c]					Odds Ratio[c]
No participation (%)	70.7	67.9	0.15	0.55	1.16 (0.72 - 1.86)
Non-paid work (%)	4.3	4.5			
Paid work (%)	25.0	27.6			

[a] Cox regression analysis adjusted for regional SSA office and type of worker

[b] Linear Regression analysis of working participants (*n*= 84) adjusted for regional SSA office and type of worker

[c] Ordinal Regression analyses adjusted for regional SSA office and type of worker

Table 3 Results of the mixed model analyses for self-reported secondary outcomes

	Group	**Baseline (T1) (*n* = 62)**	**4 months (T2) (*n* = 62)**	***B***	**Group*Time *p* value**
Psychological complaints, mean (SD) *(0 to 36 score)*	Intervention	28.3 (7.1) (*n* = 35)	22.7 (8.6) (*n* = 35)	-5.57 ($p < 0.01$)	0.88
	Control	29.2 (7.0) (*n* = 27)	24.2 (8.5) (*n* = 27)	-5.27 ($P < 0.01$)	
Self-efficacy for RTW, mean (SD) *(1 to 6 score)*	Intervention	3.0 (1.0) (*n* = 35)	3.2 (1.28) (*n* = 35)	0.26 ($p = 0.15$)	0.72
	Control	2.3 (1.0) (*n* = 27)	2.6 (0.98) (*n* = 27)	0.16 ($p = 0.43$)	

Differences in psychological complaints and self-efficacy for RTW between the Brainwork Intervention group and the control group, adjusted for regional SSA office and type of worker

B = regression coefficient

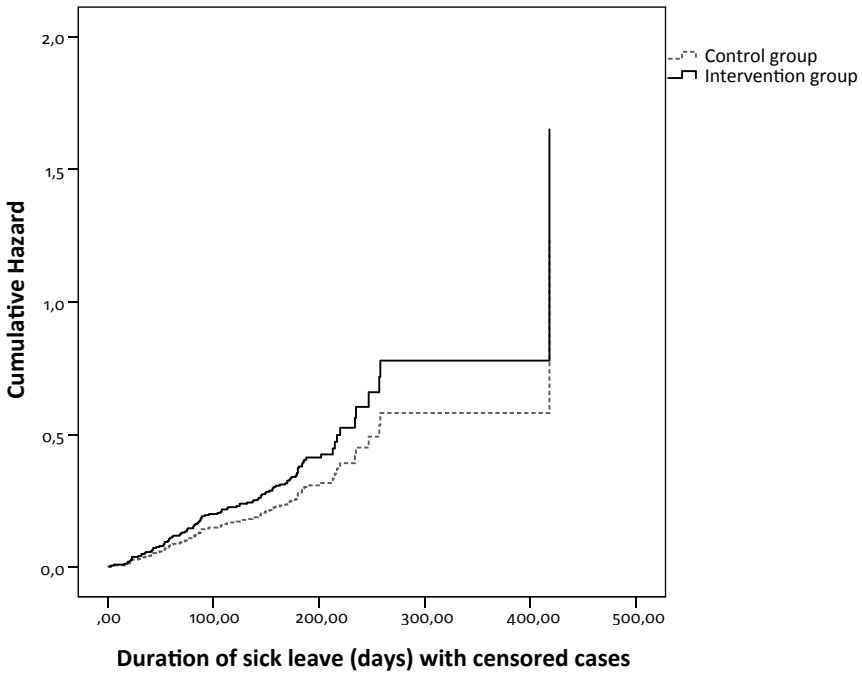


Figure 2 Cumulative hazard curves for the duration of sick leave in days during the 6-month follow-up for the Brainwork Intervention group and the control group adjusted for regional SSA office and type of worker

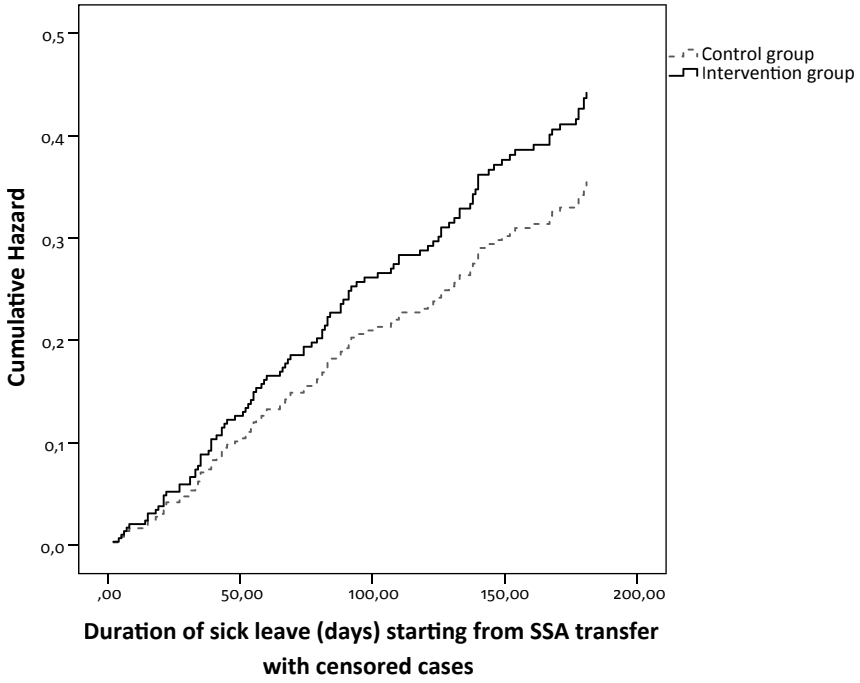


Figure 3 Cumulative hazard curves for the duration of sick leave in days starting from SSA transfer during the 6-month follow-up for the Brainwork Intervention group and the control group adjusted for regional SSA office and type of worker

DISCUSSION

This paper presents the effects of a newly developed Brainwork Intervention program at six months follow-up for non-permanent workers who were sick-listed due to psychological problems, compared to usual care. Our study indicated a non-significant reduction of the primary outcome measure duration of sick leave in the intervention group compared to care as usual. The non-significant reduction was also found for the secondary outcome measure duration of sick leave starting from SSA transfer in favor of the intervention group. Among those working during six months follow-up, the number of hours of paid employment during follow-up was significantly higher in the control group. No significant differences between

the intervention and control group were found with regard to the remainder of the secondary outcomes, i.e., degree of participation, level of psychological complaints and self-efficacy for RTW. Finally, the adherence to the intervention protocol was low (10%) and the tailored Brainwork Intervention was not given at all to 32% of the participants in the intervention group.

In this pragmatic controlled study, we studied the effectiveness of an expert-based intervention program developed by OH professionals of the SSA. While acknowledging the advantages of our pragmatic trial, with a good applicability of the intervention [26] and high external validity [26,27], our design also has some disadvantages, including the low protocol adherence by professionals in the real OH setting. Furthermore, as the Brainwork Intervention is a multi-component intervention, our design does not allow us to evaluate which intervention components are responsible for failure or success. However, there are some possible explanations why the Brainwork Intervention did not show marked differences between the intervention group and the control group. First, in only 10% of the participants in the intervention group were at least three of the five protocol steps followed. This means that in 90% of the participants, most of the steps of the intervention protocol, such as telephone contact with the worker, a face-to-face contact with the vocational rehabilitation counselor, or consultation of the IP, were not executed in time or were not executed at all. An explanation for the low protocol adherence on an organization level is that the work process at the participating SSA offices was not geared to such short lead times between the different steps of the intervention protocol, or due to other organizational constraints. Another explanation on the behavioral level for the low protocol adherence could be that the professionals were not used to working according to a tightly prescribed protocol. Implementation research shows physicians often have problems following practice guidelines or changing their behavior to follow the guideline [28]. Although IPs mentioned that the intervention was not indicated nor necessary for some included participants, we found that in most cases (79%) there was, according to the protocol, no valid explanation or reason for not giving the Brainwork Intervention. A second explanation for the non-significant results is that the intensive vocational counseling did not result in noteworthy reintegration into primary paid work or non-paid work (placement in (temporary)

workplaces), which was hypothesized as one of the essential elements of our intervention to achieve functional recovery and regain control [29]. Insufficient involvement of the workplaces can be regarded as program failure [30]. From another study with sick-listed non-permanent workers, it is known that it is hard to find workplaces (temporary or otherwise) for these workers [31]. A third explanation for the non-significant results could be Brainwork category classification errors, which may have led to an inappropriate (i.e., lighter) Brainwork Intervention program. Brainwork category classification errors are suspected because the expected recovery time of the Brainwork category classification of the worker does not correspond to the estimated sick-leave duration of the segmentation code of the worker. Within the intervention group, the Brainwork category classification 1 (estimated recovery <3 months) was assessed in 70.6% of the participants, while the segmentation code 1 (estimated sick leave <13 weeks) was assessed in 28.7% of the participants (see Table 1). With an accurate assessment of the Brainwork category classification, we would expect percentages of workers with Brainwork category classification 1 to correspond more or less with the percentages of workers with segmentation code 1. Perhaps OH professionals need more training in assessing the Brainwork category classification and to achieve a better protocol adherence. The low protocol adherence and possible inappropriate assessment of the Brainwork category classification of the worker can be regarded as implementation failures. Implementation failure is a common reason for inconclusive or negative findings in intervention studies [30,32].

Due to the low protocol adherence (10%), relevant per-protocol analysis for the primary outcome measure duration of sick leave and secondary outcome measure duration of sick leave starting from SSA was not possible. Given the low number of 16 participants for whom the protocol was followed appropriately, the per-protocol analysis was underpowered. Further, the planned Mixed Models analyses for the outcomes regarding sick-leave duration [22] were not possible at six months follow-up, due to the high number of censored cases. This was because termination of sick leave had not yet occurred in 67% of the cases and these cases had to be censored for the analyses. We applied Cox regression analysis because this analysis technique is more appropriate for the high amounts of censored data.

The strength of this study is the complete and accurate data collection for the whole follow-up period from the SSA database for the primary outcome duration of sick leave and the secondary outcomes duration of sick leave starting from SSA transfer, number of hours of paid employment during follow-up and degree of participation. Consequently, this study has no attrition bias for these outcomes. Deriving these outcomes from the database also leads to a low risk of detection bias, despite the lack of blinding to the sick-listed workers, occupational health professionals and the intervention partners that are allocated to the intervention or control group. A concern regarding the self-reported secondary outcomes in this study is that the response rate of the baseline questionnaire (28%) and questionnaire at four months follow-up (19%) was low, resulting in the power of the study to detect changes in the self-reported secondary outcomes being low. Furthermore, a high percentage of selective non-response can bias the results if more participants with a worse mental health or longer estimated recovery period, compared to the respondents, did not return the questionnaire. However, in our study the non-response analysis with regard to the baseline characteristics and the segmentation code did not show an indication for selective non-response.

Based on our study at six months follow-up, the use of the Brainwork Intervention program cannot be recommended. IPs who intend to use interventions for non-permanent workers must realize that a range of interventions are available, but that little can be said about the effectiveness of these interventions.

CONCLUSION

Based on the results of our study at six months follow-up, we conclude that in the short-term the Brainwork Intervention did not show marked differences in favor of the intervention group on any outcome. The adherence of the OH professionals to the protocol was low.

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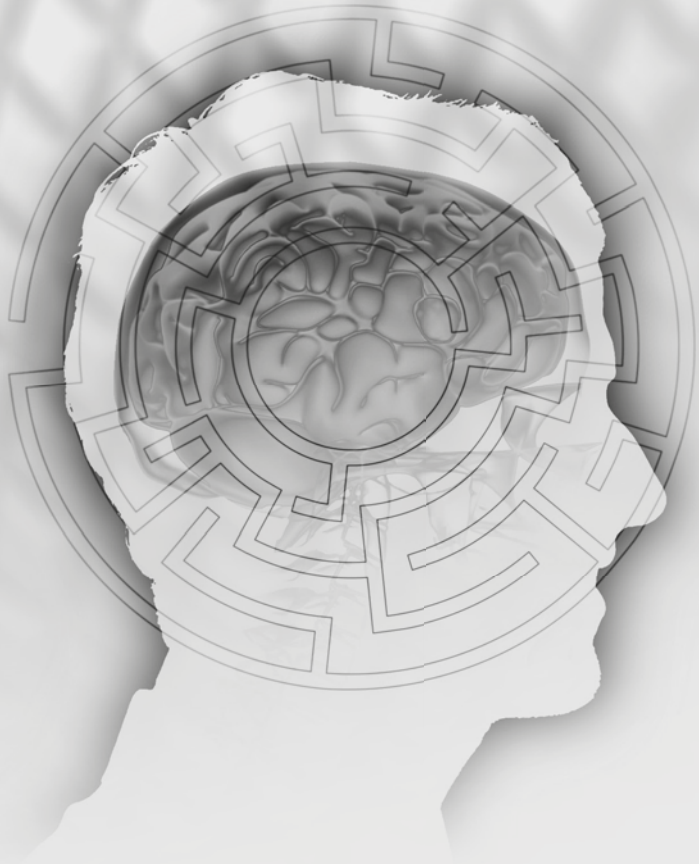


CHAPTER 8

General discussion

The main objective of this thesis was to promote work participation of non-permanent workers who were sick-listed due to psychological problems. This chapter starts with a brief report of the main findings of five studies, in line with the two research questions posed in the general introduction **(Chapter 1)**. Subsequently, methodological considerations of the research are discussed and the findings are interpreted. In closing, recommendations for practice, policy makers and future research are made.

Main findings

1. Which factors and perspectives that influence work participation can be distinguished in non-permanent workers who are sick-listed due to psychological problems?

First, a longitudinal cohort study was conducted among 932 sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts who were sick-listed due to psychological problems **(Chapter 2)**. Results indicated that workers' own perceived moderate or good health and positive expectations of a full return to work (RTW) at 10 months were prognostic factors for work participation at 18 months. Younger age (<45 year), working status at 18 months (part- or full-time) and positive expectations of a full RTW at 18 months were prognostic factors for work participation at 27 months.

In another study using a qualitative design, 25 sick-listed unemployed workers with psychological problems were asked about their barriers and solutions for RTW **(Chapter 3)**. We identified three types of workers' attitude towards their own RTW process reflecting differences in workers' abilities to envision and implement steps towards RTW: (1) "frozen": orientation/focusing on problems; (2) "insightful though passive": orientation on solutions but not (yet) actively applying the solutions; and (3) "action mode": application of solutions (or orientation thereon). Further findings indicate that in addition to medical problems impeding RTW, workers attribute many non-medical problems as barriers for RTW. Workers faced multiple problems in different domains of life related to their disease, to their personal circumstances (e.g., divorce, debts) or

their environment (e.g., labor market problems, issues with the social insurance agency). In addition, all workers expressed several psychosocial problems and/or traumatic experiences.

2. Which interventions improve the work participation of non-permanent workers who are sick-listed due to psychological problems?

A systematic literature review on the effectiveness of vocational interventions on work participation and mental distress for unemployed workers yielded five intervention studies (**Chapter 4**). Only one intervention study evaluating the JOBS II intervention program (randomized controlled trial with fair quality) reported a statistically significant effect on re-employment. A significant improvement in mental status was reported in two intervention studies. This review indicates that there is weak evidence that vocational interventions improve work participation and limited evidence that these reduce mental distress for the unemployed.

In another study, a practice guideline of occupational physicians for employed workers with psychological problems was adapted into a guidance document to enable its use by insurance physicians (IPs) for the RTW counseling of unemployed and temporary agency workers with minor psychological problems (**Chapter 5**). The core element of the adaptation of the guideline for employed workers is related to the setting that no employer is available and therefore interaction with the workplace needs to be established in an alternative way, i.e., through the involvement of vocational rehabilitation agencies and labor experts. IPs judged the new guidance document for minor psychological problems to be feasible for sickness absence counseling of unemployed and temporary agency workers and useful for the IP. With regard to the usefulness for the sick-listed worker, positive opinions were expressed by some IPs, while other IPs felt that they were unable to judge this due to the short follow-up period in this study and the lack of information.

Chapter 6 describes the Brainwork Intervention and the design of a controlled clinical trial (CCT). In this trial we studied the effectiveness of the Brainwork

Intervention for sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts who have psychological problems, compared to care as usual. The outcomes measured were: (1) duration of sick leave; (2) duration of sick leave starting from Dutch Social Security Agency (SSA) transfer; (3) degree of worker participation; (4) number of hours of paid employment during follow-up; (5) level of psychological complaints; and (6) self-efficacy for RTW, compared to care as usual.

Chapter 7 describes the effect evaluation of the Brainwork Intervention program at six months follow-up. A total of 320 non-permanent workers with psychological problems participated in the trial. At six months follow-up the Brainwork Intervention program revealed a non-significant reduction of the primary outcome duration of sick leave and secondary outcome duration of sick leave starting from SSA transfer compared to care as usual. Further, no statistically significant effect of the Brainwork Intervention compared to care as usual was found with regard to the remainder of the secondary outcomes: degree of participation, number of hours of paid employment during follow-up, level of psychological complaints and self-efficacy for RTW. Finally, the adherence to the intervention protocol was low (10%) and the tailored Brainwork Intervention was not given at all to 32% of the participants in the intervention group. Because of the low protocol adherence (10%), relevant per-protocol analyses were not possible.

Methodological considerations

There are some methodological features of the Brainwork Intervention study that deserve consideration. The first methodological issue is that the effectiveness of the Brainwork Intervention was studied with a quasi-randomization design, because a blinded allocation was impractical and difficult to set up in the practice of the Dutch Social Security Agency **(Chapter 6 and 7)**. For many years, randomized controlled trails (RCTs) were considered the "gold standard" for evaluation research because they are the most robust method of eliminating selection bias and judging the true value of interventions in all health care [1,2]. Explanatory RCTs, test whether an intervention is efficacious, i.e., whether it can have a

beneficial effect when applied to a select group under an ideal laboratory-controlled situation. However, health care interventions are seldom given under such highly controlled circumstances [3,4]. Yet for the past decade, concerns have been expressed about the utility of generalizing the results of such efficacy studies to daily clinical practice [2,5,6]. In this period, the view has been held that the overall effectiveness of an intervention is best assessed by carefully designed and well conducted pragmatic randomized trials [2,7]. Pragmatic research assesses whether an intervention works under real-life conditions and whether it works in terms that matter to the patient [7,8]. To assess the effectiveness of the Brainwork Intervention for daily practice, a pragmatic trial in real occupational health practice was thought to be the most appropriate design. To describe the design of the trial, the CONSORT statement, was followed [9,10]. By evaluating the effectiveness of the Brainwork Intervention in every-day practice, the applicability of the intervention increased [2]. Furthermore, it has the advantage of the results being more in line with daily occupational health practice, resulting in a high external validity [2,11-13]. In addition, the external validity of our study was enhanced because our design did not require standardized skills from the occupational health professionals.

A second relevant issue is the data collection during the CCT from the computerized SSA database. This database contains accurate and complete information on our primary outcome measure, duration of sick leave and most of the secondary outcome measures (duration of sick leave starting from SSA transfer, number of hours of paid employment during follow-up, degree of participation), because these data are used for calculating sickness benefit claims. Register-based data, which are used for calculating earnings, are considered to be a gold standard for retrieving sick-leave data and prevent recall bias [14,15]. As a result, loss of primary outcome data due to loss of the worker did not occur. Thus, this study has no attrition bias for the primary outcome and some of the secondary outcomes. Deriving primary outcome data from the database also leads to a low risk of detection bias, despite the lack of blinding to the sick-listed workers, occupational health professionals and the intervention providers that are allocated to the intervention or control group. The risk of detection bias is low since the assessment of the above-mentioned outcomes is not systematically influenced by the

observation of the occupational health professional or researcher, or the subjective meaning of the worker. The secondary outcomes "level of psychological complaints" and "self-efficacy for RTW", were measured using validated self-report questionnaires. A concern regarding the self-reported secondary outcomes in this study is that the response rate of the baseline questionnaire (28%) and questionnaire at four months follow-up (19%) is low. The reason for the low response is unknown. As a consequence, the power of the study to detect changes in the self-reported secondary outcomes is decreased significantly. Furthermore, a high percentage of selective non-response can bias the results if more participants with a worse mental health or longer estimated duration for sick leave, compared to the respondents, did not return the questionnaire. However, in our study there was no indication for selective non-response, because the non-response analysis with regard to the baseline characteristics and estimated duration for sick leave did not show statistical differences between respondents and non-respondents.

A third relevant methodological issue is that the Brainwork Intervention consists of different components, whose positive effects on functional recovery, recovery of mental complaints and work participation are hypothesized. A positive point is that the Brainwork components were composed by experts in the field of occupational health care and therefore have a high face validity. The components hypothesized to have positive effects are: (1) face-to-face contact with the worker in an early stage of sick leave; (2) category classification of the worker by the IP; (3) motivate to activate [16,17]; (4) goal-setting: setting explicit goals regarding the activity level of the worker and the final RTW date [18-20]; (5) providing advice for daily structure [16,17]; (6) guidance to work [16,17]; (7) increased efficiency of the internal SSA work process; and (8) timely referral for interventions e.g., a physical exercise program in combination with specific tailored content depending on the type of psychological problems. However, the exact working mechanisms of these combined components in enhancing RTW is unknown. The design of the pragmatic trial does not allow for the analysis of which intervention components were most effective for which workers and what may explain the absence of a clear effect in favor of the intervention. Combined individual intervention components may interact with each other to generate outcomes. On the other

hand, combined individual effective intervention components may not contribute to, or even reduce, the overall effectiveness [21]. In addition, including inactive components and components that facilitate counterproductive effects may diminish the intervention's efficiency [22]. Given the complex RTW process, evidence regarding the effectiveness of individual components can help optimize further development of interventions or strategies.

Interpretation of findings

To promote work participation of non-permanent workers with psychological problems, this thesis underlines the importance of gaining knowledge about factors and perspectives of workers that can influence work participation. This knowledge can then further direct interventions aimed at promoting work participation. Based on the findings in this thesis, the conceptual model as shown in **Chapter 1** has been supplemented with factors and perspectives that can influence work participation (Figure 1).

Factors and perspectives that influence work participation

The perception of the non-permanent worker turns out to be an important predictor for work participation. In our study, workers' own perceived health and RTW expectation predicts work participation **(Chapter 2)**. The worker's RTW perspective also seems to be associated with the workers' attitude towards their own RTW process **(Chapter 3)**. The workers' attitude towards their own RTW process reflects workers' perception of their own RTW process and the workers' ability to envision and implement steps towards RTW**.** At the same time, the ability of the worker to cope with factors that hinder RTW also influence the ability to envision solutions for RTW and to implement these solutions for RTW. Three types of workers' attitude towards their own RTW process were identified: (1) "frozen": orientation/focusing on problems; (2) "insightful though passive": orientation on solutions but not (yet) actively applying the solutions; and (3) "action mode": application of solutions and the orientation thereon. Studies of employed workers with both psychological and physical problems also report that the perception of the worker predicts RTW [23-27]. In a study of employed workers with chronic musculoskeletal and behavioral health disorders, the

workers' RTW expectation predicts RTW [26]. This is also the case in a study with employed workers with acute non-specific low back pain where the recovery expectation of the worker is associated with RTW [27]. So the perception of the worker is an important factor to consider during the sickness absence counseling of workers. The perception of the worker can inform the direction of interventions for sick-listed workers. Workers with negative perceptions and/or inability to envision solutions for RTW (i.e., "frozen" workers and "insightful though passive" workers) need specific help to overcome the barriers for RTW. These barriers could be negative cognitions informing the RTW expectation of the worker, inappropriate coping with problems or barriers for work participation, or insufficient targeted guidance to stimulate problem solving. In the case of negative cognitions, the intervention should focus on influencing these cognitions. This could be done with cognitive behavioral therapy [28,29]. Studies report positive effects of cognitive behavioral therapy on changing negative cognitions (e.g., negative thoughts about oneself, past experiences, and future expectations), negative self-beliefs, negative emotions when reacting to and reducing psychological symptoms in patients with psychological problems (depressive and anxiety disorder) [28,29]. Changes in negative cognitions were also associated with improvement in quality of life [28].

In our study, non-permanent workers mentioned many problems and barriers for RTW in different domains of life with often severe psychosocial problems. These multiple problems impede work participation, along with the medical problems. These findings are in line with other studies where multiple problems of the worker were identified as factors that hinder RTW [30,31]. Because of these multiple problems, a single solution is often not enough to address barriers for RTW. Interventions should also target the multiple problems of these workers, who need specific help with problem solving (including help with organizing and structuring their problems), active coping, planning and in finding employment. In this context, "frozen workers" who have no insight into solutions for RTW and a negative RTW expectation require a different approach than for instance workers in the "active mode", who need a realistic action plan or a final push to get back into the workforce.

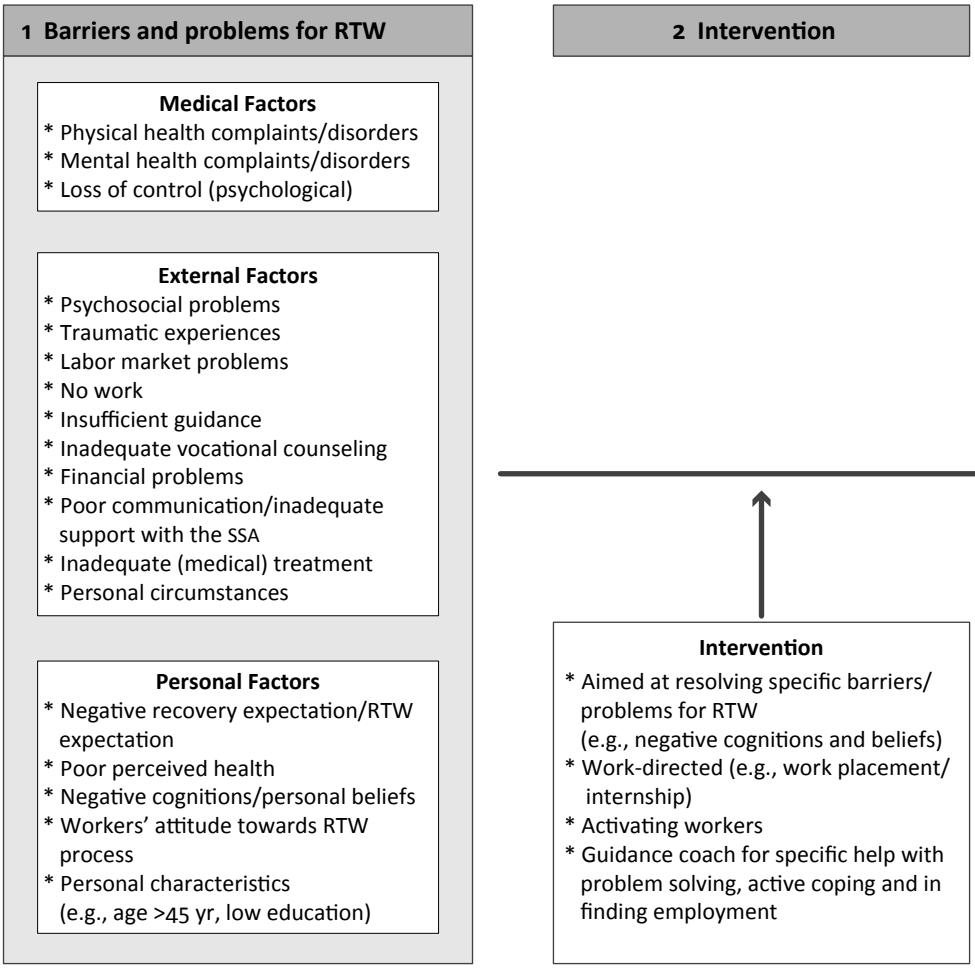
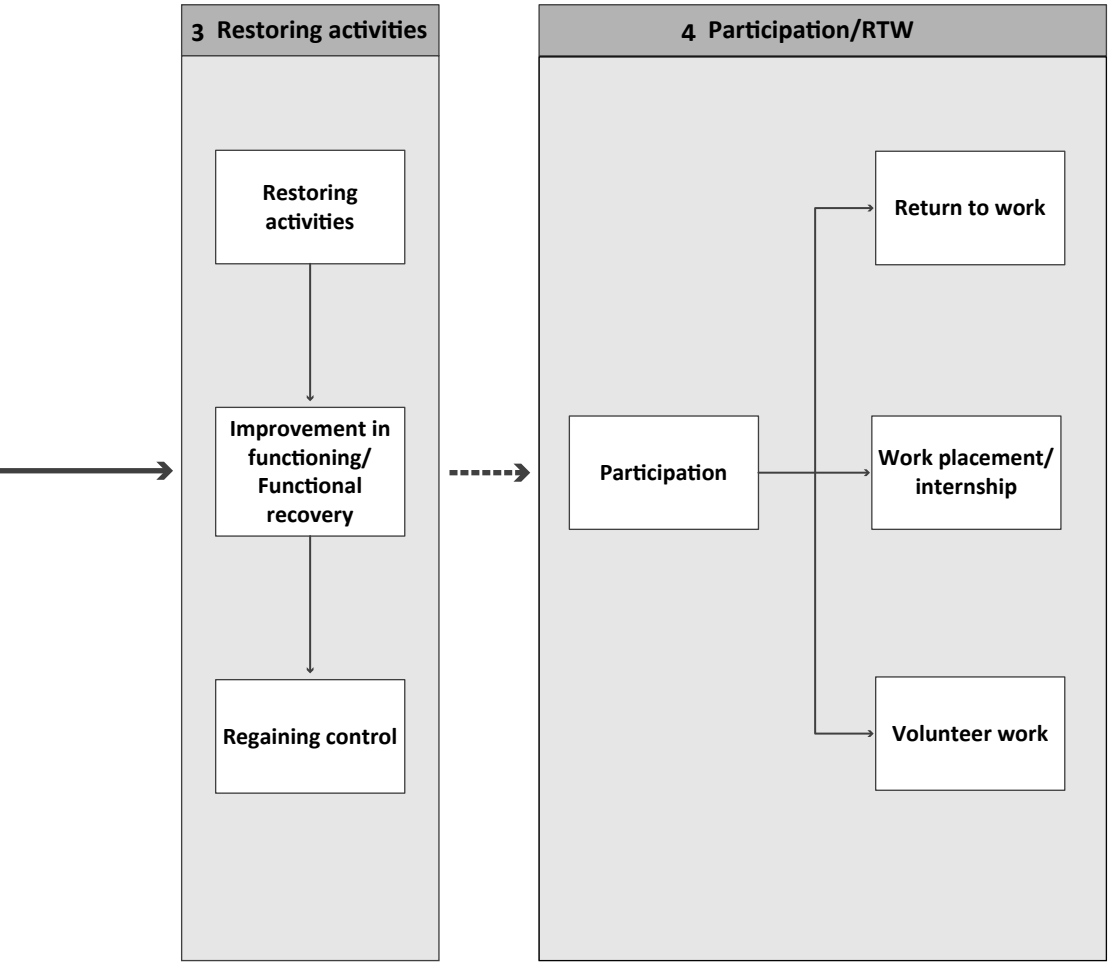


Figure 1 Model for work disability and work participation for workers with psychological problems without a permanent employment contract based on the results of this thesis and the biopsychosocial and ICF models

Besides the workers' perception, we found that being at work (part- or full-time) and younger age (<45 years) also predict work participation. Since being at work, even for a few hours, was the strongest prognostic factor (OR = 24.0) in our study, the importance of creating workplaces (temporary or otherwise) to boost the



recovery and RTW of these workers [32] and to facilitate RTW gradually [30] can not be emphasized enough. Workplaces can for instance be created by taking the search for suitable workplaces as an integral part of an RTW intervention program. This is where companies/vocational rehabilitation agencies specialized in

vocational counseling can actively approach employers for providing temporary workplaces for rehabilitation purposes. However, this is not an easy task. The Brainwork Intervention study pointed out the difficulty or failure in creating appropriate work places [33].

The practical value of the prognostic factors found in our study is highlighted by our finding of a 33% increased chance of work participation at 18 months when patients have a moderate or good perceived health and positive RTW expectation at 10 months. An 84% increase in the chance of work participation at 27 months was found when all three prognostic factors (age under 45 years, positive RTW expectation and positive working status) were present at 18 months. From the literature it is known that these prognostic factors also apply in the early stage of sick leave of workers with psychological problems [23,25,34-36]. So these findings underline the importance of knowledge about prognostic factors in predicting RTW and can help insurance and occupational physicians to identify sick-listed workers with a high risk for prolonged work disability (i.e., workers with negative prognostic factors for work participation). Furthermore, identification of prognostic factors can help to provide input for sickness absence counseling and interventions aimed at targeting the modifiable prognostic factors (e.g., negative cognitions informing the RTW expectation) of the high-risk sick-listed workers. Interventions started at an early stage of these high-risk sick-listed workers can prevent long-term sick leave and subsequent transition into permanent disability.

Interventions to improve the work participation

The knowledge gathered regarding factors and perspectives that influence work participation from the aforementioned studies was used to further develop interventions for non-permanent workers. One of our studies resulted in a guidance document for non-permanent workers with minor psychological problems **(Chapter 5)**. This guidance document consists of three process phases and includes recovery tasks for each phase [16,17,37]. In the second phase, workers are asked to evaluate the problems for RTW and the solution for those problems according to the worker. In the third phase, the worker is asked to implement the solutions for RTW. The findings regarding the perceptions of the worker from our aforementioned studies [38,39] can help the IP to estimate the workers' ability to

envision solutions for the problems for RTW and to implement the solutions for RTW. “Frozen” workers are not able to envision solutions for RTW and “insightful though passive” workers have problems implementing the solutions for RTW. By identifying these types of workers, the IP can assess the appropriate guidance and specific help required for the worker in envisioning the problems and solutions for RTW. The IPs considered the guidance document as being feasible for sickness absence counseling of non-permanent workers with minor psychological problems and useful for the IP. Evaluation regarding usefulness for the worker and implementation of the guidance document was not possible due to organizational reasons involving the limited capacity of IPs in the setting of the SSA. For this reason, we chose a different approach, which resulted in the Brainwork Intervention program.

The Brainwork Intervention program is an expert-based program developed by occupational health professionals of the SSA. The effectiveness of the Brainwork Intervention in the setting of the SSA was better able to be evaluated than the guidance document, as the involvement of the IP is needed to a lesser extent **(Chapter 7)**, compared to the guidance document for minor psychological problems (where the IP conduct the counseling). In addition, the Brainwork Intervention program has several advantages compared with the guidance document. The Brainwork Intervention is aimed at workers with the majority of the psychological problems and is thus not limited to minor psychological problems. Further, the Brainwork Intervention program contains options to target the multiple problems of non-permanent workers such as debts or dealing with psychosocial problems, in contrast to the guidance document. Targeting the multiple problems makes it possible to refer the worker to specialized care providers or professionals. Activating and work-directed elements were part of the Brainwork Intervention, as suggested in the guidance document. So the Brainwork Intervention program is a more detailed and tailored intervention for the target group of non-permanent workers than the guidance document for minor psychological problems.

The Brainwork Intervention uses a category classification based on the IP's assessment of the estimated recovery time of the worker. Hereby, the perceptions of the worker (RTW expectation, perceived health) and type of workers' attitude towards their own RTW process ("frozen", "insightful though passive", "action mode"), along with other RTW prognostic factors from the literature such as age and education [25,34] can help the IP in estimating the recovery time. Other elements that contribute to the category classification are the IP's assessment of the workers' functional impairments, severity of the psychological problems, coping ability of the worker and the degree of psychosocial problems. The Brainwork Intervention program therefore takes factors and perspectives into account that were found in our prior studies along with knowledge from the literature (e.g., activating and work-directed intervention elements) [40-43] to tailor the intervention to the needs of the worker. Examples for tailored intervention elements are a coping module for "frozen" workers or a module on debt counseling for workers with debts who no longer have an overview of their finances. Further, the psychosocial problems these non-permanent workers face are taken into account. One of the essential elements of the Brainwork Intervention is vocational counseling with the aim of an early reintegration into primary paid work, or enhancing work experience by placement in workplaces or carrying out volunteer work. Other important elements of the intervention are early face-to-face contact with the vocational rehabilitation counselor (within five work days), timely consultation of the IP, and a timely start of the intervention (within eight working days of the consultation of the IP).

Despite all the efforts to tailor the Brainwork Intervention to the needs of the worker, no significant differences were found between the intervention and control group on any outcome in the short-term. There are some possible explanations concerning why the Brainwork Intervention did not show marked differences in all outcome measures between the intervention and control group at this time point : (1) First, in only 10% of the participants in the intervention group were at least three of the five protocol steps followed. This means that for 90% of the participants, most of the steps of the intervention protocol were not executed according to the prescribed time path or at all. One explanation for the low protocol adherence on an organization level is that the work process at the

participating SSA offices was not equipped for such short lead times between the different steps of the intervention protocol or due to other organizational constraints. Another explanation on the behavioral level for the low protocol adherence could be that the professionals were not used to working according to a tightly prescribed protocol. A higher protocol adherence might have led to a greater contrast with the control group; (2) A second explanation for the non-significant results of our intervention study is that the tailored Brainwork Intervention was not given at all to 32% of the participants in the intervention group. This is in line with findings of implementation research, where physicians often encounter problems in following practice guidelines or change their behavior to follow the guideline [44]. IPs mentioned that the Brainwork Intervention was neither indicated nor necessary for some included participants, although in most cases (79%) there was, according to the protocol, not a valid explanation or reason for not giving the Brainwork Intervention; (3) A third explanation for the non-significant results is that the (intensive) vocational counseling did not result in noteworthy reintegration into primary paid work or placement in workplaces (temporary or otherwise), respectively carrying out volunteer work, which was hypothesized as one of the essential elements of our intervention to achieve functional recovery and regaining of control. Placement in workplaces was hypothesized as one of the essential elements because a precondition of functional recovery is that the worker regains control. The presence of a workplace can help in regaining control by gradually returning to work [17]. As shown in the conceptual model **(Chapter 1)** and the ICF model [45], functional recovery and regaining of control are preconditions for achieving (work) participation. Furthermore, a focus on work is important since working during RTW is an important predictor for future successful RTW in non-permanent workers [38]; (4) Finally, a fourth explanation could be that due to the short lead times of the intervention protocol and the small number of participants at a given time frame in the intervention group per participating SSA office, group activities in the program were not possible in most cases. Group activities can serve as a mediator by which group norms influence the behavior of RTW or an individual's participation [46,47]. Participation in groups can develop the self-confidence of the individual [46]. The potential effect of the group-based Brainwork Intervention component was not achieved.

As the Brainwork Intervention is a multi-component intervention, our design does not allow us to evaluate which intervention components failed or whether there are other explanations for failure. However, the low protocol adherence (10%) and high percentage (32%) of those not providing the Brainwork Intervention at all can be regarded as implementation failures. Implementation failure is a common reason for inconclusive or negative findings in intervention studies [48,49]. In addition, insufficient involvement of the workplaces, i.e., reintegration into primary paid work or placement in workplaces or carrying out volunteer work can be regarded as program failure [49]. A qualitative evaluation with the stakeholders involved with the Brainwork Intervention could provide insights into the barriers to achieving placement in workplaces (temporary or otherwise) or establish if there is any program failure.

Towards tomorrow

The research presented in this thesis underlines the need for further development of effective RTW interventions and work disability management strategies addressing the specific and individual problems of these vulnerable workers. Much research is still needed to help this group of workers with multiple problems and barriers for RTW. It remains a challenge to find suitable workplaces for vocational rehabilitation of these workers. To achieve progress in the sickness absence counseling/work disability management of these sick-listed workers, there is a role to be played by the different stakeholders involved in the RTW process of the worker. Firstly the SSA must facilitate the counseling of sick-listed workers at an early stage of sick leave [17,50], whereby the "frozen" and "insightful though passive" workers should be activated and stimulated to undertake activities. Starting counseling at an early stage is important to prevent long-term sick leave and a subsequent transition to permanent disability [50,51]. In addition, occupational health professionals have to be better equipped to execute a timely sickness absence counseling, to activate the worker, and, if necessary to deploy timely interventions. Further, employers have to make workplaces available for these workers to gain work experience and to boost their (functional) recovery [32]. Policymakers have a role too. A fundamental change in Dutch policy is needed to improve and facilitate labor participation of sick-listed non-permanent workers. This should include stimulating and realizing arrangements for subsidized

temporary workplaces, for instance by increasing the obligations of employers and temporary agencies to offer suitable workplaces for vocational rehabilitation purposes of these vulnerable workers. This will allow work participation of sick-listed non-permanent workers, with all the associated benefits (health and financial) during a sickness benefit period. Finally, a balance should be found between the societal costs for work experience places or subsidized temporary workplaces and the benefit of the employer who makes the workplace available.

Recommendations

Based on this thesis, the following recommendations for practice, policymakers and research can be made:

A. Recommendations for practice of occupational health professionals/ insurance physicians

1. Occupational health professionals must become aware of the prognostic factors for work participation and the three types of workers' attitude towards their own RTW process of non-permanent workers with psychological problems.
2. Inquiring about prognostic factors for work participation should form an integral part of the disability assessment and sickness absence counseling of sick-listed workers to:
   - identify workers at risk for prolonged work disability
     For instance workers with a negative RTW expectation or poor perceived health
   - be able to recommend or conduct interventions aimed at the modifiable negative prognostic factors
     For instance, negative cognitions about RTW expectation or perceived health is one such modifiable factor. In the case of negative cognitions or beliefs, IPs can refer the worker for cognitive behavioral therapy to change the negative cognitions or beliefs. In the case of inappropriate coping, another modifiable factor (e.g., in "frozen" workers) the IP can refer the worker for enhancing coping strategies/skills or dealing with coping
   - promote work participation in workers with positive prognostic factors
     For instance, by helping these workers with a realistic action plan for RTW

or a final push to get back into the workforce. This will be often the case for workers in the "action mode" and to a lesser extent for "insightful though passive" workers

3. IPs need customized training to learn how to advise workers when encountering negative factors for RTW and in applying minor cognitive behavioral techniques to modify negative cognitions regarding RTW.
4. Occupational health professionals need training to acquire coaching skills to help the "frozen" worker with problem solving (including help with organizing and structuring workers' problems), active coping, planning and in finding employment.
5. Use of the guidance document "minor psychological problems" in the early stage of sick leave can help the IP by providing professional support and a structure for counseling for this group.

B. Recommendations for policy makers (SSA and politics)

Adequate management of sick leave and prolonged work disability of non-permanent workers with psychological problems is crucial due to severe financial, social and health consequences for the individual and high costs to society. The following recommendations can contribute to a better management of sick leave in this population:

Recommendations for the SSA

1. Workers with multiple problems need coaching during the sickness benefit period to help them with problem solving, planning, gaining structure and in finding employment.
2. IPs must be facilitated to receive customized training in minor cognitive behavioral techniques to modify negative cognitions regarding RTW.
3. Occupational health professionals must be facilitated to receive training in coaching and problem-solving skills.

Recommendation for politics

1. A fundamental change in Dutch policy is needed to improve and facilitate labor participation of sick-listed non-permanent workers. This should include increasing the obligations for employers and temporary agencies to offer

vulnerable workers suitable workplaces (temporary or otherwise) for vocational rehabilitation purposes. This will allow work participation in combination with a sickness benefit, thereby making possible gradual RTW or an internship for the purpose of regaining control and functional recovery.

C. Recommendations for future research

1. By developing interventions for the whole group of non-permanent workers, subgroup effects may be lost. The Brainwork Intervention was tailored according to the Brainwork category classification of the worker. Future interventions studies should consider interventions tailored to the types of workers' attitude towards their own RTW process, to further optimize the intervention to the needs of the different types of workers.
2. Intervention studies should invest more effort in maximizing protocol adherence of occupational health professionals and in facilitating a timely execution of the intervention steps to maximize treatment effects.
3. Given the differences in workers' attitude towards their own RTW, further research should investigate how to measure the workers' attitude towards their own RTW in a valid and reliable way.
4. A qualitative evaluation with the stakeholders involved with the Brainwork Intervention could provide insights into the barriers to achieving placement in workplaces or establish if there is any program failure.

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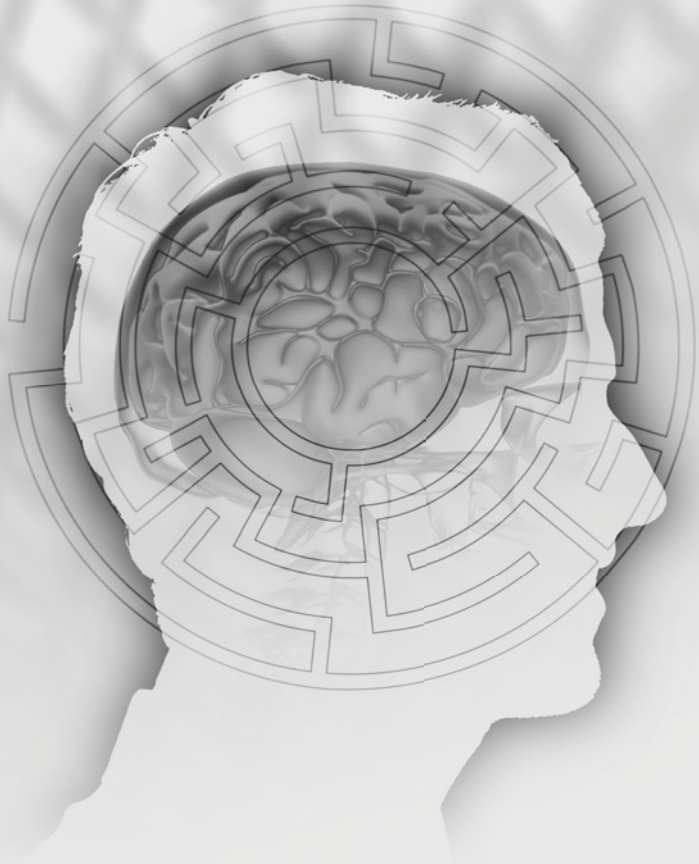


Summary

Samenvatting

SUMMARY

Among the working population, unemployed and temporary agency workers and workers with expired fixed-term contracts are a particularly vulnerable group, at risk for sickness absence and prolonged work disability due to psychological problems. These workers without a permanent employment contract – also known as non-permanent workers – are characterized by a poor mental health status and low socio-economic position. Further, they have less job security, a lower education and are more often of non-native background, compared to employed workers. Moreover, they are burdened with a greater distance to the labor market compared to sick-listed employed workers, as there is no workplace or employer to return to when sick-listed. To date, most return to work (RTW) intervention research has been aimed at sick-listed employed workers. In contrast, studies investigating effective interventions to promote work participation of non-permanent workers are scarce. Therefore, this thesis is focused on how work participation of sick-listed non-permanent workers with psychological problems can be promoted by investigating prognostic factors, perspectives of workers, and interventions that can influence work participation. The following research questions are addressed:

1. Which factors and perspectives that influence work participation can be distinguished in non-permanent workers who are sick-listed due to psychological problems?
2. Which interventions improve the work participation of non-permanent workers who are sick-listed due to psychological problems?

1. Which factors and perspectives that influence work participation can be distinguished in non-permanent workers who are sick-listed due to psychological problems?

Prognostic factors for work participation

Chapter 2 shows the results from a longitudinal cohort study of 932 sick-listed non-permanent workers with psychological problems who were included in the study after 9 months of sick leave. The cohort was followed for 18 months. The aim of this study was to identify prognostic factors for the future work participation

of medium- and long-term sick-listed unemployed and temporary agency workers, as well as workers with expired fixed-term contracts who have psychological problems. Results indicated that workers' own perceived moderate or good health and positive expectations of a full RTW at 10 months were prognostic factors for work participation at 18 months. Younger age (<45 years), working status at 18 months (part- or full-time) and positive expectations of a full RTW at 18 months were prognostic factors for work participation at 27 months. Furthermore, results indicated that the relative importance of full RTW expectations as a prognostic factor for work participation increased over time.

Perspectives of unemployed workers: Barriers and solutions for return to work

Chapter 3 shows the results from a qualitative interview study which was conducted among 25 unemployed workers who were sick-listed due to psychological problems. The aim of this study was to evaluate the barriers and solutions for RTW in the perspective of unemployed workers who were sick-listed due to psychological problems. The findings of this study indicated that sick-listed unemployed workers with psychological problems expressed several barriers for their RTW. We summarized these barriers in six categories: (1) a current decreased perceived ability to work due to mental problems (including psychosocial problems/traumatic experiences) and physical health status; (2) labor market problems; (3) inadequate (medical) treatment; (4) issues related to the social insurance agency; (5) personal characteristics and beliefs; and (6) personal circumstances. Workers further indicated various solutions for their RTW. We summarized these solutions in six categories: (1) appropriate treatment; (2) recovery of complaints/gradual RTW; (3) type of work and preconditions; (4) beliefs and being active; (5) support/communication with the social insurance agency; and (6) adequate coaching and training.

A major finding of this study was the identification of three types of workers' attitude towards their own RTW process: (1) "frozen"; (2) "insightful though passive"; and (3) "action mode". The distinction between these three types was based on whether workers had insight into their problems, had solutions to these problems and whether they actually implemented the solutions to these problems. Findings also indicate that the sick-listed unemployed workers have to deal with

multiple problems in different domains of life related to their disease, personal circumstances or their environment. These multiple problems are often perceived by workers as being severe, where one problem often leads to other problems. As a result, some workers report ending up in a downward spiral, thereby losing the perspective of improvement or work.

In conclusion, sick-listed unemployed workers with psychological problems have to deal with multiple problems, only some of which are medical problems. Besides interventions targeting the multiple problems of these workers, they need help aimed at their way of coping according to one of three types of workers' attitude towards their own RTW process. Furthermore, they need specific help organizing and structuring their problems, getting their life back on track and in finding employment.

2. Which interventions improve the work participation of non-permanent workers who are sick-listed due to psychological problems?

Vocational interventions for unemployed: A systematic review

Chapter 4 shows the results of a systematic literature review. The purpose of the literature review was to determine the effectiveness of vocational interventions on work participation and mental distress for unemployed workers and to provide an overview of the characteristics of these interventions. A search was conducted using three databases: PubMed, EMBASE and PsycINFO. All studies published in English, German, Dutch or French between 1990 and August 2008 were included if they described intervention studies aimed at enhancing RTW for unemployed subjects with mental distress or minor psychological problems. The search resulted in 4,736 citations, of which 29 articles were considered to be potentially eligible based on their title and abstract. Reviewing the 29 selected articles in full identified six articles that fulfilled all inclusion criteria. The six articles were based on five intervention studies, as two publications included the same intervention in the same population. Only one intervention study evaluating the JOBS II intervention program (randomized controlled trial (RCT) with fair quality) reported a significant effect on re-employment. The re-employment results of JOBS II were not replicated in a good quality RCT based on the principles of JOBS

II – the Työhön job-search training workshop. A significant improvement in mental status was reported in two intervention studies (JOBS II and Työhön). Both interventions were intended for unemployed job seekers to facilitate their return to the labor market and prevent possible negative mental health consequences of unemployment. Both programs focused on enhancing the sense of mastery through acquiring job-search and problem-solving skills and through decision-making group processes, as well as on providing preparedness against setbacks during the job-search process. The programs further aimed to increase the self-efficacy and motivation of the job search. The programs were based on theories of the active learning process, social modeling, gradual exposure to acquiring skills and practice through role-playing. The interventions consisted of five half-day sessions during a one-week period and were designed to achieve goals through the creation of a socially supportive environment that facilitates positive interactions and relationships between trainers and participants as well as among participants.

Based on this review, we conclude that there is weak evidence to support the use of vocational interventions to improve work participation and limited evidence to reduce mental distress for the unemployed.

Return to work guidance document

Chapter 5 describes the adaptation of a practice guideline of occupational physicians for employed workers with psychological problems into a guidance document for the sick-listed unemployed and temporary agency workers with minor psychological problems and a qualitative evaluation of the guidance document. It concludes that there is a need for the development of a new guidance document for this group, as the existing RTW interventions, including practice guidelines, do not address the situation when there is no workplace to return to. The purpose of this study was: (1) to describe the adaptations needed in the practice guideline for employed workers to enable it to be used by insurance physicians (IPs) for the RTW counseling of unemployed and temporary agency workers with minor psychological problems; and (2) to evaluate the experiences of the IPs when using the new guidance document for minor psychological problems (MPP guidance document).

The practice guideline for occupational physicians regarding counseling of employed workers with psychological problems was adapted into an MPP guidance document for unemployed and temporary agency workers. The main adaptation introduced in the guideline was that the interaction with the workplace, which is absent in this population, needed to be established in an alternative way, i.e., through the involvement of vocational rehabilitation agencies and labor experts. Overall, the guideline required less changes. In total, nineteen sick-listed workers were counseled using the MPP guidance document. The overall experiences of the IPs were that this new MPP guidance document was feasible for sickness absence counseling of unemployed and temporary agency workers and useful for the IP. With regard to the usefulness for the sick-listed worker, positive meanings were reported by some IPs, while other IPs felt that they were unable to judge this due to the short follow-up period in this study and the lack of information.

Design and evaluation of intervention study

A new intervention, called "Brainwork", was developed by professionals of the Dutch Social Security Agency (SSA). **Chapter 6** describes the Brainwork Intervention and the design of a controlled clinical trial (CCT) to primarily study its effectiveness in reducing the duration of sick leave for sick-listed unemployed and temporary agency workers and workers with expired fixed-term contracts who have psychological problems, and to compare this intervention to the usual care. A secondary goal was to study the effectiveness of the Brainwork Intervention on: (1) the duration of sick leave starting from SSA transfer; (2) the proportion of subjects who returned to work at 8 and 12 months; (3) the degree of worker participation; (4) the number of hours of paid employment during follow-up; (5) the level of psychological complaints; and (6) the self-efficacy for RTW, compared to care as usual**.** Finally, the cost-benefit analysis was intended to be evaluated from an insurer's perspective after the 12 month follow-up period. The intervention study was designed as a quasi-randomized CCT with one year follow-up**.**

Chapter 7 describes the results of the CCT at six months follow-up. The aim of the Brainwork Intervention was to assist non-permanent workers who were sick-listed

due to psychological problems with their return to work. The Brainwork Intervention uses an activating approach, which means that in the early stage of sick leave, workers were encouraged to exercise and undertake activities aimed at regaining control and functional recovery, while job coaches actively supported their search for jobs, temporary or otherwise. The content of the intervention was tailored to the severity of the psychological problems and functional impairments, as well as to the specific psychosocial problems encountered by the sick-listed worker.

The control group received the usual care, consisting of minimal involvement by the IP (one or two patient contacts in a year) and slightly more intensive contact with other occupational health professionals. In this scenario, the active sickness absence counseling was not structured according to a fixed protocol and started at a later point in time during the sick leave process, which in practice can range from a few weeks to six months after reporting sick. Furthermore, there was no protocol for the referral to RTW programs. The main goals of usual care were to evaluate the sickness benefit claim of the sick-listed worker and the workers' fitness for work, as well as to monitor the sick-listed worker. In contrast to the Brainwork Intervention group, in usual care, early reintegration into primary paid work or enhancing work experience was not an explicit goal. The study population consisted of non-permanent workers who were sick-listed with psychological problems as the main health complaint and an expected recovery period of between two weeks and 12 months, based on the IP's assessment of the recovery period. Three regional offices of the SSA across the Netherlands participated in the study. Further, vocational rehabilitation agencies, mental health institutions/ professionals and companies specializing in activating rehabilitation programs consisting of physical exercise, dealing with coping, and lifestyle management were contracted by the SSA to participate in the study.

The primary outcome measure duration of sick leave and the secondary outcome measures duration of sick leave starting from SSA transfer, number of hours of paid employment during the follow-up period and the degree of worker participation were registered during a period of 6 months after initiation of the program. The remainder of the available secondary outcomes at six months

follow-up, level of psychological complaints and self-efficacy for RTW were measured at baseline, and 4 months after initiation of the program. Data on the primary outcome measure duration of sick leave and the secondary outcomes duration of sick leave starting from SSA transfer, the number of hours of paid employment during the follow-up period and the degree of worker participation were retrieved from the computerized SSA database. Data on the secondary outcomes, level of psychological complaints and self-efficacy for RTW were collected from self-report questionnaires.

In total, 320 workers who had been sick-listed for at least two weeks due to psychological problems were allocated to the intervention group (n=164) or to the control group (n=156). The Brainwork Intervention program at six months follow-up revealed a non-significant reduction of the primary outcome measure duration of sick leave compared to care as usual (p = 0.14). At six months follow-up, the mean duration of sick leave was 171 days (SD 61) in the intervention group and 185 days (SD 86) in the control group, a mean difference of 14 days. The non-significant reduction was also found for the secondary outcome measure duration of sick leave starting from SSA transfer in favor of the intervention group (p = 0.26). The mean duration of sick leave starting from SSA transfer in the intervention group was 146 days (SD 59) versus 152 days (SD 53) in the control group, a mean difference of six days. Among those working during six months follow-up (n= 84), the number of hours of paid employment during follow-up was significantly higher in the control group. The mean number of hours of paid employment for those working was 257 hours (SD 261) in the intervention group and 443 hours (SD 304) in the control group (p = 0.005). However, the number of workers having paid employment during follow-up hardly differs in both groups – 41 workers in the intervention group and 43 workers in the control group. When taking all the 320 participants into account, there were no significant differences between either group with regard to the number of hours of paid employment during follow-up. Finally, non-significant differences between the intervention group and the control group were found with regard to the remainder of the secondary outcomes: degree of participation, level of psychological complaints and self-efficacy for RTW.

The response rate of the questionnaire at baseline was 28% and 19% at four months follow-up. In 68% (*n* = 112) of the participants in the intervention group, the Brainwork Intervention was actually provided. However, it was only in 10% (*n* = 16) of all the participants in the intervention group that at least three of the five protocol steps regarding adherence of the occupational health professionals to the protocol of the Brainwork Intervention program were followed. The following five protocol steps were used as process measures for adherence to the protocol: (1) telephone contact with the worker within two working days after the SSA received the sick report; (2) face-to-face contact on the part of the vocational rehabilitation counselor with the worker within five working days after the SSA received the sick report; (3) bilateral consultation between the vocational rehabilitation counselor and the IP, within two working days after the face-to-face contact with the worker; (4) worker's visit to the consultation hour of the IP within one or two weeks (based on the IP's assessment of the worker's estimated recovery time) of the bilateral consultation; (5) timely start of the intervention within eight working days of the consultation hour of the IP.

Due to the low protocol adherence (10%), relevant per protocol analysis for the primary outcome measure duration of sick leave and secondary outcome measure duration of sick leave starting from SSA transfer was not possible.

In **Chapter 8,** the general discussion, the main findings of the five studies in this thesis are summarized and discussed. In addition, methodological considerations regarding the research context are given. Finally, recommendations are made for practice, policymakers and future research.

The results of the studies in this thesis provide valuable information regarding factors and perspectives that can influence work participation of sick-listed non-permanent workers with psychological problems. These factors can provide input for sickness absence counseling and RTW interventions. Furthermore, results indicated a promising guidance document for RTW counseling for unemployed and temporary agency workers with minor psychological problems. The systematic literature review revealed that effective RTW interventions for these workers are scarce, thereby underlining the need to develop effective RTW

interventions for non-permanent workers. Finally, the results at six months follow-up of the newly developed Brainwork Intervention, showed no marked difference on the duration of sick leave between the intervention and control group.

The following recommendations were made:

A. For the practice of occupational health professionals/insurance physicians

1. Occupational health professionals must become aware of the prognostic factors for work participation and the three types of workers' attitude towards their own RTW process of non-permanent workers with psychological problems.
2. Inquiring about prognostic factors for work participation should form an integral part of the disability assessment and sickness absence counseling of sick-listed workers to identify workers at risk for prolonged work disability and to be able to recommend or conduct interventions aimed at modifiable negative prognostic factors.
3. IPs need customized training to learn how to advise workers when encountering negative factors for RTW and in applying minor cognitive behavioral techniques to modify negative cognitions regarding RTW.
4. Occupational health professionals need training to acquire coaching skills to help workers with problem solving (including help with organizing and structuring workers' problems), active coping, planning and in finding employment.
5. Use of the guidance document "minor psychological problems" in the early stage of sick leave can help the IP by providing professional support and a structure for counseling for this group.

B. For policy makers (SSA and politics)

Recommendations for the SSA

1. Workers with multiple problems need coaching during the sickness benefit period to help them with problem solving, planning, gaining structure and in finding employment.
2. IPs must be facilitated to receive customized training in minor cognitive

behavioral techniques to modify negative cognitions regarding RTW.
3. Occupational health professionals must be facilitated to receive training in coaching and problem-solving skills.

Recommendation for politics

1. A fundamental change in Dutch policy is needed to improve and facilitate labor participation of sick-listed non-permanent workers. This should include increasing the obligations for employers and temporary agencies to offer vulnerable workers suitable workplaces (temporary or otherwise) for vocational rehabilitation purposes. This will allow labor participation in combination with a sickness benefit, thereby making possible gradual RTW or an internship for the purpose of regaining control and functional recovery.

C. For future research

1. By developing interventions for the whole group of non-permanent workers, subgroup effects may be lost. The Brainwork Intervention was tailored according to the Brainwork category classification of the worker. Future interventions studies should consider interventions tailored to the types of workers' attitude towards their own RTW process, to further optimize the intervention to the needs of the different types of workers.
2. Intervention studies should invest more effort in maximizing protocol adherence of occupational health professionals and in facilitating a timely execution of the intervention steps to maximize treatment effects.
3. Given the differences in workers' attitude towards their own RTW, further research should investigate how to measure the workers' attitude towards their own RTW in a valid and reliable way.
4. A qualitative evaluation with the stakeholders involved with the Brainwork Intervention could provide insights into the barriers to achieving placement in workplaces (temporary or otherwise) or establish if there is any program failure.

SAMENVATTING

Psychische problemen zoals depressie, angststoornissen en stressgerelateerde stoornissen zijn de voornaamste oorzaak van ziekteverzuim en langdurige arbeidsongeschiktheid in de meeste geïndustrialiseerde landen. Naast persoonlijk leed, heeft het verzuim als gevolg van psychische klachten ingrijpende financiële gevolgen voor de samenleving. Onder de werkende populatie vormen werklozen, uitzendkrachten en personen met een beëindigd dienstverband een kwetsbare groep, met een verhoogde kans op ziekteverzuim en langdurige arbeidsongeschiktheid ten gevolge van psychische klachten. Deze werknemers zonder vast dienstverband, vangnetters genaamd, hebben een drie keer grotere kans op een WIA uitkering vergeleken met reguliere zieke werknemers met een vast dienstverband. Vangnetters hebben een slechtere gezondheid, lagere socio-economische positie, minder baan zekerheid, lagere opleiding en zijn vaker van allochtone afkomst, vergeleken met zieke werknemers met een vast dienstverband. Bovendien hebben vangnetters een grotere afstand tot de arbeidsmarkt in vergelijking met werknemers, omdat zij bij ziekteverzuim geen werkplaats of werkgever hebben waar zij terug kunnen keren. Bij ziekte vindt de verzuimbegeleiding van de vangnetter plaats door de verzekeringsarts (in de arborol), die in feite de rol heeft van de bedrijfsarts. Door het ontbreken van een werkgever is het proces voor terugkeer naar werk voor de zieke vangnetter niet duidelijk omschreven. Er is weinig bekend over de effectiviteit van re-integratiebevorderende interventies bij zieke vangnetters. Het merendeel van interventie onderzoek naar re-integratie is gericht op zieke werknemers. De focus van dit proefschrift ligt op hoe arbeidsparticipatie van zieke vangnetters met psychische klachten bevorderd kan worden, door het identificeren van voorspellende factoren voor terugkeer naar werk, en door perspectieven van vangnetters over succesvolle arbeidsparticipatie en interventies die arbeidsparticipatie kunnen beïnvloeden te bestuderen.

De onderzoeksvragen van het proefschrift zijn:

1. Welke factoren en perspectieven die arbeidsparticipatie beïnvloeden kunnen worden onderscheiden bij zieke vangnetters met psychische klachten?
2. Welke interventies bevorderen arbeidsparticipatie van zieke vangnetters met psychische klachten?

1. Welke factoren en perspectieven die arbeidsparticipatie beïnvloeden kunnen worden onderscheiden bij zieke vangnetters met psychische klachten?

Om deze vraag te beantwoorden zijn twee studies verricht beschreven in **Hoofdstuk 2** en **3**. In de eerste studie is een onderzoek in de tijd (longitudinaal onderzoek) uitgevoerd bij 932 zieke vangnetters met psychische klachten. In deze studie worden zieke vangnetters vanaf 9 maanden ziekteverzuim 1,5 jaar gevolgd. Voorspellende factoren voor toekomstige arbeidsparticipatie op de middellange (18 maanden) en lange termijn (27 maanden) zijn geïdentificeerd. In de tweede (kwalitatieve) studie zijn 25 zieke werklozen met psychische klachten uitgebreid bevraagd wat volgens hen zelf belemmeringen en oplossingen voor arbeidsparticipatie zijn.

Een positieve verwachting voor werkhervatting van de vangnetter zelf is zowel op de middellange- en lange termijn een voorspellende factor voor arbeidsparticipatie. Een matig tot goed ervaren gezondheid is na 10 maanden verzuim voorspellend voor arbeidsparticipatie op 18 maanden. Jonger zijn (<45 jaar) en al (gedeeltelijk) aan het werk zijn gekomen zijn na 18 maanden verzuim voorspellend voor arbeidsparticipatie op 27 maanden. De conclusie van dit onderzoek is dat de eigen inschatting en beoordeling van gezondheid, leeftijd en (gedeeltelijke) werkhervatting de belangrijkste voorspellende factoren zijn voor toekomstige arbeidsparticipatie bij zieke vangnetters met psychische klachten.

In de kwalitatieve studie zijn verschillende belemmeringen voor arbeidsparticipatie door de zieke werklozen benoemd, samengevat in de volgende zes categorieën: (1) het hebben van psychische problemen (inclusief psychosociale problemen/ traumatische ervaringen) en lichamelijke gezondheidklachten; (2) arbeidsmarkt problemen; (3) geen adequate (medische) behandeling; (4) problemen gerelateerd aan het UWV, zoals bijvoorbeeld moeizame communicatie of ontevredenheid over de begeleiding; (5) persoonlijkheidskarakteristieken en overtuigingen, zoals bijvoorbeeld een lage opleiding of het lastig vinden om voor een baas te werken; en (6) persoonlijke omstandigheden, zoals bijvoorbeeld gebrek aan kinderopvang. Oplossingen voor arbeidsparticipatie zijn geuit als: (1) adequate behandeling; (2) herstel van klachten en geleidelijke terug keer naar werk; (3) aard van het werk en

randvoorwaarden, zoals bijvoorbeeld aangepast werk en het beschikken over vervoer naar het werk ; (4) persoonlijke overtuigingen (bijvoorbeeld zo snel mogelijk weer willen werken) en actief bezig zijn: (5) ondersteuning van en communicatie met UWV; en (6) adequate begeleiding, coaching en training.

Een andere belangrijke bevinding is dat er drie typen vangnetters zijn onderscheiden op basis van de houding van de persoon in het proces van terugkeer naar werk: (1) "wachtstand/passief" (geen inzicht, focust alleen op de problemen); (2) "tussenfase" (inzicht aanwezig maar passief); (3) "actie stand" (is actief bezig, zoekt naar oplossingen voor werkhervatting of past deze toe). Het onderscheid tussen de drie typen is gebaseerd op het feit of de vangnetters inzicht hebben in hun problemen, oplossingen voor deze problemen hebben, en of zij daadwerkelijk de oplossingen voor de problemen in de praktijk brengen. Vangnetters hebben veel verschillende problemen gerelateerd aan hun ziekte, persoonlijke omstandigheden (bijvoorbeeld echtscheiding, schulden) en omgeving (bijvoorbeeld negatieve werkervaringen). De aard van de veelvuldige problemen worden vaak als ernstig ervaren door de vangnetter, waarbij één probleem vaak weer leidt tot andere problemen. Sommige vangnetters geven aan hierdoor in een neerwaartse spiraal terecht te komen, waarbij zij het perspectief op verbetering of werk verliezen.

De conclusie van dit onderzoek is dat zieke vangnetters met psychische klachten te maken hebben met veel problemen, waarvan medische problemen slechts een deel zijn. Zij hebben hulp op maat nodig gericht op het kunnen omgaan met problemen en het zoeken naar oplossingen hiervoor, waarbij inzicht in de drie typen onderscheiden vangnetters hulp kan bieden bij verdere begeleiding. Verder, hebben zij specifieke hulp nodig bij het organiseren en structureren van hun problemen, bij het terug op de rails krijgen van hun leven en bij het vinden van werk.

2. Welke interventies bevorderen arbeidsparticipatie van zieke vangnetters met psychische klachten?

Een drietal studies zijn verricht om interventies die arbeidsparticipatie bevorderen in kaart te brengen en op effectiviteit te beoordelen. Deze studies zijn beschreven

in **Hoofdstuk 4** (literatuuronderzoek), **Hoofdstuk 5** (aanpassing richtlijn) en **Hoofdstuk 6** en **7** (interventie studie).

Uit een literatuuronderzoek blijkt dat uit vijf interventie studies er één rapporteert over de JOBS II interventie, die een significant effect voor werkhervatting beschrijft. Twee interventie studies (JOBS II en Työhön job-search training workshop) rapporteren een significant effect op het verminderen van stress klachten. Bij de rest van de studies worden geen positieve resultaten voor werkhervatting of vermindering van stress klachten gevonden. De twee eerder genoemde interventies (JOBS II en Työhön) zijn bestemd voor werklozen om hun terugkeer naar de arbeidsmarkt te vergemakkelijken en om de negatieve gevolgen van werkloosheid voor de mentale gezondheid te voorkomen. Beide programma's zijn gericht op het verbeteren van het zelfvertrouwen en gevoel van eigen controle. Dit wordt bereikt door het verwerven van vaardigheden om werk te zoeken en problemen op te lossen en door werklozen voor te bereiden op tegenslagen tijdens het zoeken naar een baan. Verder richten de programma's zich op het vergroten van de eigen effectiviteit om werk te zoeken en op motivatie. De programma's zijn gebaseerd op theorieën van actief leren, sociale modellering, geleidelijke blootstelling aan verworven vaardigheden en oefenen door middel van rollenspellen. De JOBS II en Työhön interventies omvatten vijf sessies van een halve dag gedurende 1 week en zijn ontworpen om doelstellingen te bereiken door het creëren van ondersteuning uit de omgeving dat positieve interacties en relaties tussen trainers en participanten, en tussen participanten onderling faciliteert.

De conclusie van het literatuuronderzoek is dat er zwak wetenschappelijk bewijs is om met re-integratiebevorderde interventies de arbeidsparticipatie te bevorderen en beperkt bewijs om stressklachten te verminderen van werklozen.

Aangezien het literatuuronderzoek geen interventies met sterk bewijs voor het bevorderen van arbeidsparticipatie heeft opgeleverd, hebben wij gekeken naar andere mogelijkheden om de tweede onderzoekvraag te beantwoorden. Door de Nederlandse Vereniging voor Arbeid- en Bedrijfsgeneeskunde (NVAB) is een richtlijn beschikbaar voor het begeleiden van zieke werknemers met psychische

problemen. Aangezien de NVAB-richtlijn geen rekening houdt met de situatie van vangnetters waarbij er geen werkgever of werkomgeving is om tijdens ziekteverzuim terug te keren, kan de richtlijn niet 1 op 1 voor vangnetters gebruikt worden. Het doel van dit onderzoek is daarom om: (1) de NVAB-richtlijn psychische problemen voor werknemers zodanig aan te passen dat deze in de vorm van een werkwijzer door verzekeringsartsen gebruikt kan worden voor de verzuimbegeleiding van zieke vangnetters; en (2) de ervaringen van de verzekeringsartsen bij het gebruik van deze werkwijzer te evalueren.

Voor deze studie is de NVAB richtlijn voor begeleiding van werknemers met psychische problemen aangepast tot een werkwijzer voor begeleiding van werklozen en uitzendkrachten met milde psychische problemen. De kern van de aanpassing van de NVAB richtlijn in een werkwijzer voor verzekeringsartsen is dat door het ontbreken van een werkgever, de interactie met de werkomgeving op een alternatieve manier is ingevuld, bijvoorbeeld door bemiddeling van re-integratiebedrijven en arbeidsdeskundigen. Daarnaast zijn in de werkwijzer preventie en terugvalpreventie meer op het individu gericht in plaats van op de interactie tussen het individu en de werkomgeving. Zoals ook in de richtlijn gangbaar is worden in de werkwijzer de drie procesfasen doorlopen, waarbij het handelen van de verzekeringsarts bij het proces van controleverlies naar functioneringsherstel wordt weergegeven. De werkwijzer is door vijf verzekeringsartsen bij in totaal 19 vangnetters toegepast en als haalbaar en bruikbaar beoordeeld voor inzet in de praktijk. De verzekeringsartsen vinden dat de werkwijzer hen professionele ondersteuning en structuur geeft bij de verzuimbegeleiding. De verzekeringsartsen zijn van mening dat de gestructureerde begeleiding met de werkwijzer tot een eerdere werkhervatting of herstelmelding kan leiden.

De conclusie van dit onderzoek is dat de werkwijzer bruikbaar is voor verzekeringsartsen voor de verzuimbegeleiding van zieke vangnetters met milde psychische problemen. Verzekeringsartsen zijn positief over de werkwijzer. Verder onderzoek is nodig om te bepalen of deze verzuimbegeleiding tot eerdere werkhervatting leidt.

Opzet en evaluatie van de interventie studie, genaamd Breinwerk

De Breinwerk Interventie is door professionals van het UWV ontwikkeld om zieke vangnetters met psychische klachten te helpen met terugkeer naar werk. **Hoofdstuk 6** beschrijft de Breinwerk Interventie en de opzet van een gecontroleerde klinische studie met een interventie groep en een controle groep. Het doel van de studie is om de effectiviteit van de Breinwerk werkwijze in het verkorten van de arbeidsongeschiktheidsduur van zieke werklozen, uitzendkrachten en personen met een beëindigd dienstverband met psychische klachten te evalueren, in vergelijking met de huidige gebruikelijke werkwijze. In **Hoofdstuk 7** worden de resultaten van de Breinwerk studie beschreven na 6 maanden follow-up. De Breinwerk werkwijze wordt gekenmerkt door (1) een snelle activering van vangnetters in een vroeg stadium van ziekteverzuim (binnen enkele dagen); (2) het bieden van structuur; en (3) activiteiten gericht op herstel van controle en verbeteren van functioneren zoals een programma gericht op bewegen, het omgaan met problemen en leefstijl. Verder bestaat de interventie uit snelle re-integratie of inzet van een werkervaringsplaats met ondersteuning van externe re-integratie bedrijven. Daarnaast worden vangnetters voor specifieke (gezondheid) interventies doorverwezen naar een externe zorgaanbieder (bijvoorbeeld instelling voor geestelijke gezondheidszorg) en/of organisatie die gespecialiseerd is in het vinden van werk (bijvoorbeeld re-integratie bedrijf). De inhoud van de interventie is afgestemd op de ernst van de psychologische problemen en functionele beperkingen, als ook de specifieke psychosociale problemen van de vangnetter (bijvoorbeeld schulden).

De controle groep krijgt de gebruikelijke werkwijze, waarbij de verzuimbegeleiding niet geprotocolleerd is. Verder is er geen protocol voor het verwijzen naar re-integratiebevorderende interventies. De onderzoekspopulatie bestaat uit werklozen, uitzendkrachten en personen met een beëindigd dienstverband met psychische klachten als hoofdreden van ziekmelding en een verwacht herstel tussen 2 weken en 12 maanden. Drie regionale UWV kantoren verspreidt over Nederland hebben deel genomen aan de studie. De hoofd uitkomstmaat is arbeidsongeschiktheidsduur. Secundaire uitkomstmaten bij 6 maanden follow-up zijn: duur overdracht UWV kantoor tot herstelmelding, aantal uren betaald werk gedurende follow-up, mate van participatie, mate van psychische klachten en

eigen-effectiviteit in terugkeer naar werk. Data voor de hoofd uitkomstmaat en de secundaire uitkomstmaten duur overdracht UWV kantoor tot herstelmelding, aantal uren betaald werk gedurende follow-up en mate van participatie zijn verkregen vanuit de UWV database. Data voor de secundaire uitkomstmaten psychische klachten en eigen-effectiviteit in terugkeer naar werk zijn verkregen uit door de personen zelf ingevulde vragenlijsten.

In totaal zijn 320 vangnetters die tenminste twee weken ziek gemeld waren ten gevolge psychische klachten met een verdeelsleutel toegewezen aan de Breinwerk Interventie programma (n=164) of aan de gebruikelijke werkwijze (n=156). Na 6 maanden follow-up blijkt de Breinwerk Interventie niet effectiever te zijn in het verkorten van de arbeidsongeschiktheidsduur, vergeleken met de gebruikelijke werkwijze. De gemiddelde arbeidsongeschiktheidsduur is 171 dagen in de interventie groep en 185 dagen in de controle groep, een gemiddeld verschil van 14 dagen. Ook voor de resterende uitkomstmaten blijkt de Breinwerk interventie niet effectiever dan de gebruikelijke werkwijze. De mate waarin het interventie protocol door UWV medewerkers is gevolgd, is 10%. Dat betekent dat bij 90% van de deelnemers in de interventie groep het protocol niet goed is gevolgd. Bovendien hebben 32% van de deelnemers in de interventie groep de Breinwerk Interventie helemaal niet gekregen. De vragenlijsten zijn ingevuld door 28% van de deelnemers bij aanvang van de studie en 19% van de deelnemers bij 4 maanden follow-up.

In **Hoofdstuk 8** zijn de belangrijkste bevindingen van de vijf studies in dit proefschrift samengevat en bediscussieerd. Tenslotte worden aanbevelingen voor de praktijk, beleidsmakers en onderzoek gedaan.

De resultaten van de studies in dit proefschrift geven waardevolle informatie over factoren en perspectieven die de arbeidsparticipatie van zieke vangnetters met psychische klachten kunnen beïnvloeden. Deze factoren kunnen helpen bij de verzuimbegeleiding en de keuze van de in te zetten re-integratiebevorderende interventies. Verder is een bruikbare werkwijzer voor begeleiding van zieke werklozen en uitzendkrachten met milde psychische klachten ontwikkeld. Het literatuuronderzoek heeft uitgewezen dat effectieve interventies om arbeids-

participatie van werklozen te bevorderen schaars zijn, en benadrukt daarmee het belang voor de ontwikkeling van effectieve interventies voor vangnetters. Tenslotte, laten de resultaten van de Breinwerk Interventie studie bij 6 maanden follow-up geen duidelijke verschillen in de arbeidsongeschiktheidsduur zien tussen de interventie en controle groep.

Aanbevelingen

A. Aanbevelingen voor praktijk professionals/verzekeringsartsen

1. Praktijk professionals moeten bewust zijn van de voorspellende factoren voor arbeidsparticipatie en de drie typen werknemers attituden (houding) voor terugkeer naar werk bij zieke vangnetters met psychische klachten.
2. Het informeren naar voorspellende factoren voor arbeidsparticipatie dient een integraal onderdeel van de arbeidsongeschiktheid beoordeling en verzuimbegeleiding te vormen. Hierdoor kunnen vangnetters met een verhoogd risico voor langdurige arbeidsongeschiktheid geïdentificeerd worden en kan er gericht geadviseerd worden over het inzetten van interventies om negatieve voorspellende factoren te verminderen. Soms kunnen deze interventies zelf worden uitgevoerd.
3. Verzekeringsartsen hebben een training nodig om te leren hoe vangnetters te adviseren bij wie negatieve voorspellende factoren voor arbeidsparticipatie aanwezig zijn en om minimale cognitief gedragsmatige technieken toe te passen om negatieve cognities (gedachten) over arbeidsparticipatie te veranderen.
4. Praktijk professionals hebben training nodig om coachingsvaardigheden te verwerven om vangetters te helpen bij het organiseren, structuren en oplossen van problemen, met het kunnen omgaan met problemen, met planning en bij het vinden van werk.
5. Het gebruik van de werkwijzer voor de begeleiding van vangnetters met milde psychische klachten kan de verzekeringsarts helpen door het bieden van professionele ondersteuning en een gestructureerde verzuimbegeleiding in het begin van de verzuim episode.

B. Aanbevelingen voor beleidsmakers (UWV en politiek)

Aanbevelingen voor UWV

1. Vangnetters met veelvuldige problemen hebben tijdens ziekteverzuim begeleiding nodig om ze te helpen met het structuren en oplossen van problemen, met planning, met het verkrijgen van structuur en het vinden van werk.
2. Verzekeringsartsen moeten gefaciliteerd worden om trainingen in cognitief gedragsmatige technieken te kunnen volgen om o.a. negatieve cognities (gedachten) voor arbeidsparticipatie te veranderen.
3. Praktijk professionals moeten gefaciliteerd worden om trainingen in coachingsvaardigheden en probleem oplossing te kunnen volgen.

Aanbeveling voor politiek

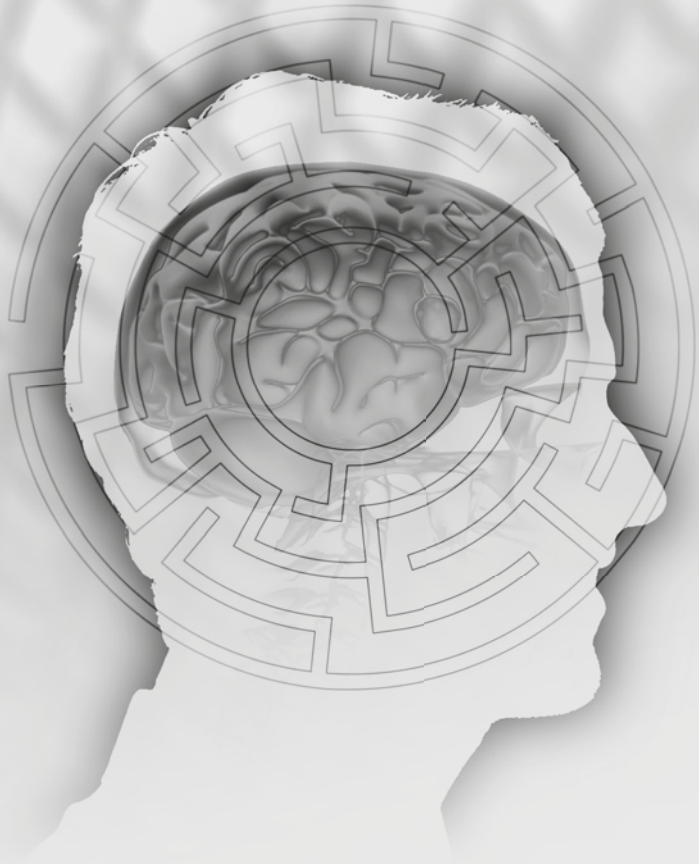
1. Een fundamentele beleidsverandering is nodig om de arbeidsparticipatie van zieke vangnetters te verbeteren. Dit kan ondermeer door de verantwoordelijkheid van werkgevers en uitzendbureaus te vergroten om kwetsbare werknemers geschikte (tijdelijke) werkplekken voor re-integratie doeleinden te bieden. Hierdoor is arbeidsparticipatie in combinatie met een Ziektewet uitkering mogelijk. Dit maakt geleidelijke terugkeer naar werk of een werkervaringsplaats mogelijk en daarmee hervinden van controle en functionele verbetering.

C. Aanbevelingen voor toekomstig onderzoek

1. Door interventies te ontwikkelen voor de hele groep vangnetters, kunnen subgroep effecten verloren gaan. De Breinwerk Interventie is afgestemd op de Breinwerk categorie type van de vangnetter. Toekomstige interventie studies dienen te overwegen om de interventies af te stemmen op de verschillende typen attituden van werknemers voor terugkeer naar werk, om zo de interventie verder te optimaliseren naar de behoeften van de individuele werknemer.
2. Interventie studies moeten meer inspanningen verrichten om de mate waarin professionals zich aan het protocol houden te optimaliseren en in het tijdig uitvoeren van de interventie stappen in het protocol om zo de behandelresultaten te verbeteren.
3. Gegeven de verschillen in attituden van werknemers voor terugkeer naar werk, kan in toekomstig onderzoek onderzocht worden hoe de houding van

werknemers ten aan zien van hun terugkeer naar werk op een juiste en betrouwbare manier gemeten kan worden.

4. Evaluatie met de verschillende partijen die bij de Breinwerk Interventie betrokken zijn kan inzicht geven in de belemmeringen voor plaatsing van zieke vangnetters in (tijdelijke) werkervaringsplaatsen.



About the author

Curriculum vitae

Portfolio

Publications

CURRICULUM VITAE

Selwin Sudesh Audhoe was born on December 1st 1964 in Paramaribo, Surinam. After completing secondary school at Mr. dr. J.C. de Miranda Lyceum in 1983 (Paramaribo), he moved to the Netherlands to study Medicine at the Erasmus University Rotterdam. He graduated in 1989, after which he worked two years in a hospital (Atrium Medisch Centrum, Heerlen) as a physician in the cardiology department. He then went on to specialize in insurance and occupational medicine, becoming registered in 2001.

In 1991 Selwin started working as an insurance physician for the Dutch Institute for Employee Benefit Schemes (UWV). In 2008 he was seconded as PhD researcher at the Dutch Research Center for Insurance Medicine, a collaboration between the Academic Medical Center, the University Medical Center Groningen, UWV and the VU Medical Center. For his PhD project, he worked at the Coronel Institute of Occupational Health department of the Academic Medical Center, University of Amsterdam. His research projects concerning promoting work participation for workers without a permanent employment contract who have psychological problems resulted in several international publications which form the basis of this PhD thesis. In addition, Selwin is involved in training medical students regarding occupational health.

PORTFOLIO

Name PhD student:	Selwin Audhoe
PhD period:	June 2008 – October 2015
Name PhD supervisor:	Prof. dr. M.H.W. Frings-Dresen, Prof. dr. J.K. Sluiter

	Year	Workload	
		Hours	*ECTS*
PhD TRAINING			
General courses			
Basic course: the AMC World to Science	2008	24	0.9
Systematic Reviews	2008	12	0.5
Better Use of PubMed and other medical databases	2008	8	0.3
Scientific writing in English for Publication	2008	42	1.5
Kennismaken met Evidence-based Medicine	2008	8	0.3
Specific courses			
Clinical Epidemiology: The Essentials	2008	12	0.5
Practical Biostatics	2010	40	1.5
Advanced Topics in Clinical Epidemiology	2010	32	1.2
Advanced Topics in Biostatics	2013	40	1.5
Motivational interviewing	2013	12	0.5
Beoordelen van co-assistenten (AMC)	2014	3	0.1
Oral Presentations			
Presentation research meetings Coronel Institute (7x)	2009-2015	56	2.0
Presentation research meetings Dutch Research Center for Insurance Medicine (KCVG) (6x)	2009-2015	48	1.7
Congress on Insurance medicine (VG dagen)	2011	8	0.3
UWV (Academiseringsmiddagen and Staff presentations) (8x)	2010-2013	64	2.3
Prognostic factors for work participation, EUMASS congress, Padova, Italy	2012	8	0.3
Brainwork Intervention, EUMASS congress, Stockholm, Sweden	2014	8	0.3
Poster Presentations			
Congress on Occupational medicine (4x) (Bedrijfsgeneeskundige dagen)	2009-2013	56	2.0
Congress on Insurance medicine (4x) Verzekeringsgeneeskundige dagen	2009-2013	56	2.0

	Year	Workload	
		Hours	*ECTS*
Muntendam symposium (3x)	2010-2013	24	0.9
UWV	2011	8	0.3
(Inter)national conferences			
Muntendam symposium (7x)	2008-2014	28	1.0
Wetenschap in uitvoering	2009	4	0.2
Congress Dutch Research Center for Insurance Medicine (werkconferentie KCVG) (7x)	2009-2014	59	2.1
Congress on Occupational medicine (4x) Bedrijfsgeneeskundige dagen	2009-2013	24	0.9
Congress on Insurance medicine (4x) Verzekeringsgeneeskundige dagen	2009-2013	24	0.9
Heijermans lezingen (4x)	2009-2014	12	0.5
The disability assessment structured interview	2010	3	0.1
EUMASS congress, Padova, Italy	2012	20	0.7
EUMASS congress, Stockholm, Sweden	2014	20	0.7
Farewell symposium Prof. dr. Frank J.H. van Dijk: Connected with workers' health	2013	3.5	0.1
Lecturing			
Senior internship - 6th year medical students (6x)	2011-2015	96	3.5
Junior internship - 2nd year medical students (1x)	2010	11	0.4
TOTAL (28 hr = 1 ECTS)		873.5	32.0

PUBLICATIONS

International publications in this thesis

Audhoe SS, Hoving JL, Sluiter JK, Frings-Dresen MHW. Vocational interventions for unemployed: effects on work participation and mental distress. A systematic review. J Occup Rehabil. 2010; 20(1):1-13.

Audhoe SS, Hoving JL, Nieuwenhuijsen K, Friperson R, de Jong PR, Sluiter JK, Frings-Dresen MHW. Prognostic factors for the work participation of sick-listed unemployed and temporary agency workers with psychological problems. J Occup Rehabil. 2012; 22:437-446.

Audhoe SS, Hoving JL, Nieuwenhuijsen K, Sluiter JK, Frings-Dresen MHW. Development and qualitative evaluation of an adapted return to work guideline for the sick-listed unemployed and temporary agency workers with minor psychological problems. BMC Res Notes. 2012; 5:535. doi: 10.1186/1756-0500-5-535.

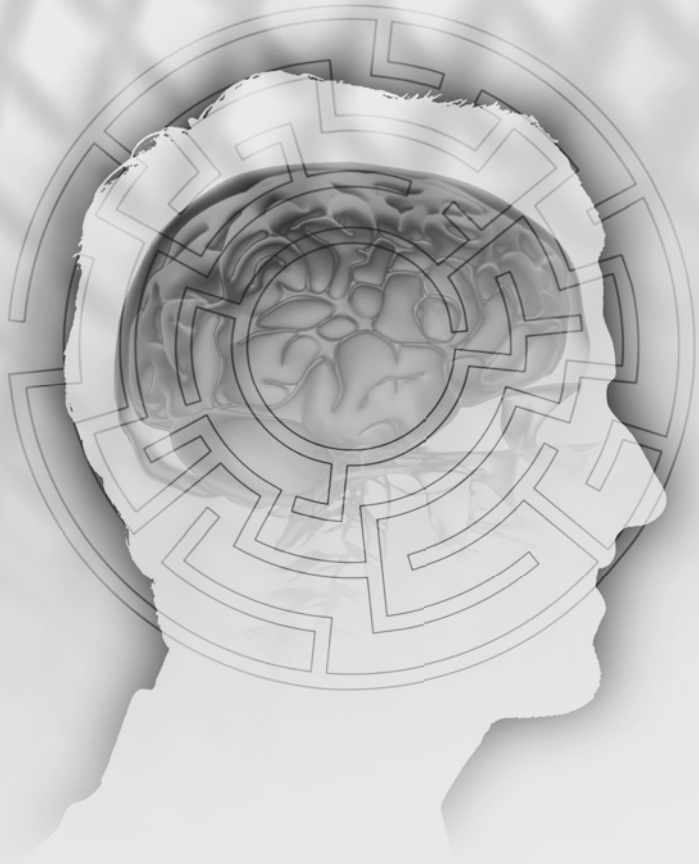
Audhoe SS, Nieuwenhuijsen K, Hoving JL, Sluiter JK, Frings-Dresen MHW. The effectiveness of the "Brainwork Intervention" in reducing sick leave for unemployed workers with psychological problems: design of a controlled clinical trial. BMC Public Health. 2015; 15:377. doi: 10.1186/s12889-015-1728-z.

Audhoe SS, Nieuwenhuijsen K, Hoving JL, Sluiter JK, Frings-Dresen MHW. Perspectives of unemployed workers with psychological problems: barriers and solutions for return to work. Submitted.

Audhoe SS, Nieuwenhuijsen K, Hoving JL, Zijlstra BJH, Frings-Dresen MHW, Sluiter JK. Is the "Brainwork Intervention" effective in reducing sick leave for non- permanent workers with psychological problems? Results of a Controlled Clinical Trial. Submitted.

National publication

Audhoe SS, Hoving JL, Nieuwenhuijsen K, Sluiter JK, Frings-Dresen MHW. Ontwikkeling en evaluatie van een werkwijzer voor zieke werklozen en uitzendkrachten met stressgerelateerde stoornissen. Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde. 2013; 21(6):278-279.



Dankwoord

DANKWOORD

Het is zover!!! Mijn proefschrift is af. Een heerlijk gevoel om na meerdere jaren hard werken aan mijn promotieonderzoek terug te kijken naar een intensieve, leerzame en leuke periode. Dit is echter alleen mogelijk geweest door de onvoorwaardelijke steun van het thuisfront en de hulp van veel personen. Graag wil ik dan ook iedereen bedanken die mij (direct of indirect) heeft geholpen met de totstandkoming van dit proefschrift. Een aantal personen wil ik in het bijzonder noemen.

Allereerst wil ik mijn promotores en copromotores bedanken. In de eerste plaats voor het vertrouwen dat jullie in mij gesteld hebben om het promotietraject samen met mij aan te gaan. In de tweede plaats voor jullie tomeloze energie en inzet bij de begeleiding gedurende dit traject. Iedereen heeft op zijn/haar eigen manier een specifieke bijdrage geleverd. Monique, je zorgde vooral dat de grote lijnen van het onderzoek klopten en dat deze overzichtelijk en begrijpelijk waren. Daarmee hield jij ons scherp met vragen zoals 'wat hebben wij eraan?' en 'wat is de bijdrage ervan aan de wetenschap en praktijk?'. Judith, naast je wetenschappelijke inbreng had jij oog voor details en haalde je de kleinste foutjes en omissies uit mijn artikelen. Daarnaast probeerde jij je in te leven in mijn argumentatie en in wat ik als onderzoeker probeerde te zeggen. Jan, je zorgde met jouw epidemiologie achtergrond dat er geen hiaten in het onderzoek zaten op dit gebied en hebt hiermee een belangrijke bijdrage geleverd om de (wetenschappelijke) lat hoger te leggen. Vooral ook over hoe je praktisch onderzoek moet doen en waar je in de praktijk op moet letten. Naast onderwerpen over mijn onderzoek, hebben wij het ook vaak over privé onderwerpen gehad waaruit een mooie vriendschap is ontstaan. En Karen!! Jij sloot wat later aan bij mijn onderzoekstraject, maar was als mijn directe begeleider en programmaleider van het Breinwerk onderzoek onmisbaar. Jouw ervaring als onderzoeker en parate kennis waar bepaalde informatie gehaald kon worden, kwamen hierbij zeer goed van pas. Daarnaast haalde jij de kleinste grammaticale foutjes uit mijn artikelen. Kortom er was sprake van echt teamwork.

De leden van de promotiecommissie, prof. dr. Anema, prof. dr. Bültmann, prof. dr. de Haan, prof. dr. de Jong en prof. dr. Willems, wil ik hartelijk bedanken voor de aandacht en tijd die zij hebben besteed aan het beoordelen van mijn proefschrift en hun bereidheid om te opponeren tijdens de verdediging ervan.

Verder wil ik alle onderzoekdeelnemers aan mijn studies bedanken. Zonder hen zou het niet mogelijk geweest zijn. Bedankt dat jullie ondanks de moeilijke persoonlijke omstandigheden bereid zijn geweest om aan de studies deel te nemen. Ook wil ik alle UWV collega's bedanken die zich hebben ingezet om mijn studies in de praktijk uit te voeren. In het bijzonder wil ik noemen: Bob Kim, Jeroen van Roessel, Ernst van der Eijk, Jelle Troost, Mariette Iemenschot, Kim Haekens, Jos Boekhorst en Nel Pijpers. Aan het Breinwerk onderzoek hebben veel collega's meegedaan, teveel om iedereen persoonlijk op te noemen. Toch wil ik de volgende collega's die de drijfveer waren op de deelnemende UWV kantoren en daarmee onmisbaar voor het Breinwerk onderzoek bedanken: Ditte van Soest, Bert van der Wulp en Peter Bleijleven. Het management van de UWV kantoren Rotterdam, Den Bosch en Hengelo hartelijk dank dat jullie onderzoek een warm hart toe dragen en voor het scheppen van de voorwaarden om praktijkonderzoek op jullie kantoren mogelijk te maken.

Ik wil het UWV bedanken voor het (financieel) mogelijk maken van dit promotietraject. In het bijzonder wil ik Diederike Holtkamp bedanken voor het vertrouwen en de steun en begeleiding vanuit UWV gedurende het promotietraject. Ook Geert Tillemans en later Ronald Broeders wil ik bedanken als direct leidinggevenden vanuit UWV.

Coronel collega's en oud-collega's, allemaal bedankt voor de gezelligheid op het Coronel, die ik als een zeer warme omgeving heb ervaren. Paul Kuijer bedankt voor de altijd vrolijke, opbeurende, hart onder de riem stekende en energie gevende gesprekken, waarbij er altijd ruimte was voor een goede grap. Onderzoeksassistenten Babs en later Maria hartelijk dank voor jullie ondersteuning en het vele werk dat jullie verzet hebben. Sonja, Bibi en Els hartelijk dank voor alle praktische hulp en ondersteuning. Vooral Sonja bedankt voor het altijd mee denken naar een oplossing bij allerlei praktische problemen die ik tegen kwam.

En ja, een oplossing kwam er – hoe dan ook – altijd.

Rob jij was mijn eerste kamergenoot op het AMC (HvA) en hebt me aan het begin van mijn promotietraject wegwijs gemaakt binnen het AMC. Ook delen wij gezamenlijke interesses, hetgeen altijd tot leuke gesprekken heeft geleid. Wij weten wat wij aan elkaar hebben en zullen altijd vrienden blijven. Fania, aan het eind van je promotietraject was jij mijn tweede kamergenoot. Dank voor de leuke tijd. En tenslotte Edwin, mijn derde kamergenoot. Ik heb jou leren kennen als iemand met een "groot hart". Je toont ook altijd interesse in mijn persoonlijke omstandigheden. De maandagochtend begon steevast met de vragen "hoe was je weekend?" en "wat voor leuks heb je gedaan?". Als ervaren en reeds gepromoveerde onderzoeker heb ik veel aan je gehad. Ik kon altijd met je van gedachten wisselen en rekenen op je hulp. Ook bedankt voor je hulp met SPSS.

Ook wil ik al mijn (ex)KCVG collega's bedanken met wie ik werkoverleggen, werkconferenties en congressen heb gedeeld. Bedankt voor jullie inspiratie, tips en collegialiteit. In het bijzonder wil ik noemen: Monique Broekhuizen, jij was mijn eerste directe begeleider en ik vond het jammer dat je het KCVG verliet. Birgit dank voor de interesse in mijn onderzoek en het verloop ervan. Haije vooral bedankt als collega verzekeringsarts, waarbij ik altijd met onderzoeksvragen over de praktijk bij je terecht kon. Omdat jij naast onderzoeker ook verzekeringsarts bent, keek jij net iets anders tegen bepaalde praktijk vragen aan. Je analytische blik gaf altijd weer een heldere kijk om dingen in het juiste perspectief te plaatsen.

De collega's en het management van UWV Arnhem, hartelijk dank voor de interesse in mijn onderzoek en de ruimte die ik van jullie kreeg om ondanks mijn beperkte aanwezigheid in Arnhem mijn werk te kunnen doen. Mede dankzij jullie volledige medewerking heb ik mijn beperkte aanwezigheid niet als een belemmering ervaren.

Graag wil ik mijn familie bedanken. Allereerst mijn vier grootouders die ieder op hun eigen wijze en binnen hun mogelijkheden een bijdrage hebben geleverd aan mijn opvoeding en zodoende hun stempel hebben gedrukt op de persoon die ik nu ben. Lieve papa en mama, ik houd van jullie, jullie staan altijd onvoorwaardelijk voor mij klaar. Bedankt voor de veilige en onbezorgde jeugd en dat jullie mij altijd

hebben gesteund in de keuzes die ik heb gemaakt. Broer Rogillo en zus Mandy, dank voor jullie steun en interesse in mijn onderzoek. Ook mijn schoonouders hartelijk dank voor jullie steun en bereidheid om altijd weer de kinderen op te vangen als – zoals vaak gebeurde – ik niet op tijd thuis kon zijn.

Tot slot het thuisfront! Amber en Dinand, jullie zijn mijn oogappels, mijn allerdierbaarste bezit. Amber dank voor de vele leuke momenten en voor je hulp bij het maken van figuren en tabellen voor mijn artikelen. Eerst keek jij erg op tegen papa (*"papa weet alles"*) en nu je bijna het gymnasium erop hebt zitten weet ik plotseling niets meer en krijg ik vaak te horen: "*laat maar, jij snapt het niet*". Ik vraag mij af waar het mis is gegaan. En dan Dinand. Ik heb bewondering voor je tomeloze geduld. Jij bent echt een papa's kindje. Ieder keer als ik achter de computer ging zitten, zei je *"oh nee hé"*, want dan wist je dat ik vanwege mijn onderzoek uren in de werkkamer zat. Toch bewaarde je altijd het geduld om op mij te wachten, zodat ik eindelijk weer een spelletje met je kon spelen.

Last but not least Asha. Waar zal ik beginnen? Ik weet het niet. Het promotieonderzoek is voor mij alleen mogelijk geweest omdat jij thuis voor rust zorgde, thuis alles uit mijn handen nam en ik geen omkijken naar had. Zonder de rust en steun van het thuisfront was ik niet aan begonnen en was er helemaal niets terecht gekomen van het proefschrift. Heel hartelijk dank voor jouw liefde en steun, maar vooral het geduld de afgelopen jaren.

En nu is het (bijna) tijd voor een feest!

Selwin


Kenniscentrum
Verzekeringsgeneeskunde