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## **Sickness absence and return to work in workers with major depressive disorder**

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# Chapter 1

## General introduction

This chapter was based on:

Vlasveld M.C., van der Feltz-Cornelis C.M., van Marwijk H.W.J. Depressie te lijf met het 'Collaborative care'-model [Combatting depression using the collaborative care model]. Ned Tijdschr Geneesk. 2010; 154(8):A1486.

Lagerveld S.E., Bültmann U., Franche R.L., van Dijk F.J., Vlasveld M.C., van der Feltz-Cornelis C.M., Bruinvels D.J., Huijs J.J., Blonk R.W., van der Klink J.J., Nieuwenhuijsen K. Factors associated with work participation and work functioning in depressed workers: a systematic review. J Occup Rehabil. 2010 Sep;20(3):275-92.

## **GENERAL INTRODUCTION**

### **Major depressive disorder**

Major depressive disorder (MDD) is a prevalent, burdensome disorder. In the global burden of disease study, MDD is expected to be one of the top 2 leading causes of disability adjusted life years in 2020 [1]. In the Netherlands, about 15% of the general population will experience a major depressive episode once in his or her life [2]. Although half of them recovers within 3 months, in 1 out of 5 patients the depression still persists after 2 years [3]. The core symptoms of MDD are a depressed mood and a loss of interest or pleasure in activities. Other symptoms are: sleeping problems, tiredness or loss of energy, poor appetite or overeating, concentration problems, feelings of guilt, psychomotor agitation or retardation and suicidal thoughts or thoughts about death. If at least 5 of these symptoms are present for at least 2 weeks, of which at least 1 core symptom, and if they cause suffering or significant limitations in functioning, one speaks of MDD [4].

### **Treatment of MDD**

Evidence-based guidelines for the treatment of MDD are available. They include psychotherapeutical interventions such as cognitive-behavioural therapy (CBT) and interpersonal therapy, as well as pharmacological treatments [5]. However, despite the availability of these guidelines, depressed patients often receive less-than-optimal treatment [6,7]. Simply disseminating guidelines and educating professionals to implement them have only minimal effect on improving depression outcomes [8]. In real life, there are many barriers to optimal treatment, such as a poor identification of MDD, waiting lists for treatment, poor adherence to treatment recommendations by patients, lack of adherence to treatment guidelines by health care professionals and little active monitoring of treatment outcomes [6,9,10]. Particularly in complex and chronic conditions such as MDD, attention for self management by the patient and continuous monitoring of symptoms are important [11]. To overcome these barriers, more powerful methods of treatment have been proposed, such as the collaborative care model [11-13]. Collaborative care was developed in the United States as a primary care treatment model for MDD. In collaborative care, a care manager is appointed to support the primary care physician in the management of patients with MDD. The care manager coordinates care, provides a short, evidence-based intervention such as Problem Solving Treatment (PST) and monitors the progress of treatment regularly. Often, a psychiatrist is available for consultation by the care manager. Collaborative care enhances the systematization and organization of care by providing closer follow-up on symptoms and adherence to treatment and by integrating specialist input and primary care [14]. Extensive evidence supports the effectiveness of collaborative care in the primary care setting, and new research projects study the effectiveness of this treatment model in other countries than the United States, other populations than MDD patients and other healthcare settings than the primary care setting [14-16].

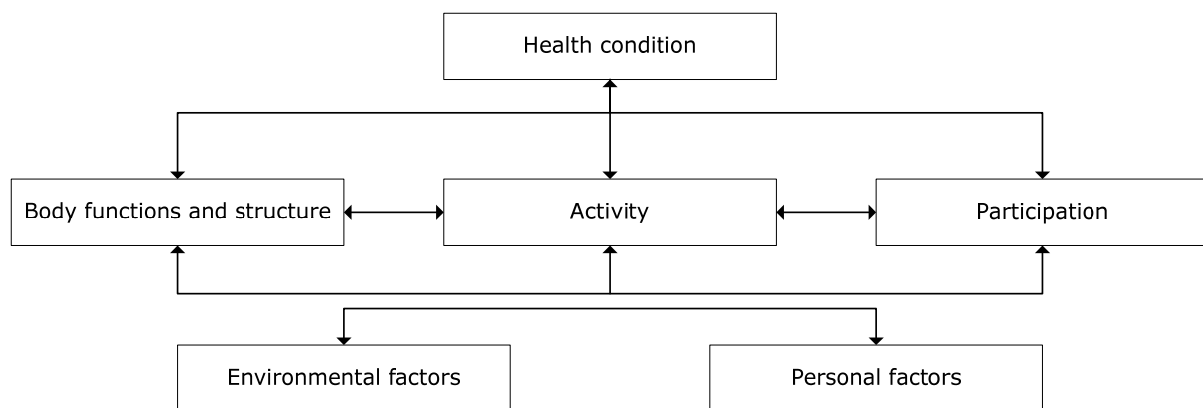
### **MDD and absenteeism**

MDD is strongly associated with negative work outcomes, such as job loss, job turnover, absenteeism and reduced work functioning [17,18]. The vast majority of the total costs of MDD is due to production losses [19]. Moreover, MDD is contributing most to the total number of sickness absence days in the Dutch working population, generating an annual

cost of 1.8 billion Euros [20]. Besides economic consequences for society, depression-related work problems have severe consequences for the individual worker. The ability to work is an important aspect of quality of life [21]. Work provides income, day structure and opportunities for social contacts. Prolonged absence from work reduces meaningful activity and often increases anxiety to return to work, making workers doubt their own competence or fear the reactions of their colleagues [22]. For sick-listed workers with MDD, these consequences of absenteeism may even further aggravate the depression. Thus, considering the implications of absenteeism, for society as well as for the individual worker, return to work (RTW) in sick-listed workers with MDD is very important.

### Sickness absence and return to work

Sickness absence and return to work (RTW) are both complex, multifactorial phenomena. They are not only influenced by medical factors, but by a wide variety of personal and work-related factors as well [23-25]. In the International Classification of Functioning, Disability and Health (ICF), disability and functioning are presented as outcomes of interactions between health conditions and contextual factors, including personal and environmental factors (see Figure 1). The ICF is based on the biopsychosocial model in which illness is not only dependent on biomedical conditions but also on psychological and social influences [26].



**Figure 1. The International Classification of Functioning, Disability and Health.**

Corresponding with the ICF categories, Lagerveld et al. examined which personal, work-related and disorder-related factors are associated with work participation and work functioning in depressed workers [27]. In this systematic review, work participation was defined as the capability and/or opportunity to participate in the workforce, and does not only include sickness absence episodes but also permanent work disability, unemployment and early retirement. Work functioning refers to the productivity or performance of workers who, at least partly, participate in work. Thus, while work participation differentiates between workers 'off work' and workers 'at work', work functioning is an 'at work' measure [27]. With respect to work participation, strong evidence was found for the association between a long duration of the depressive episode and work disability. In addition, moderate evidence showed that more severe types of depressive disorders, co-morbidity with other mental or physical disorders, older age and history of previous sickness absence were associated with work disability. For a number

of other factors, such as low self-esteem, low education and supervisory behaviour, only limited evidence could be established. With respect to work functioning, moderate evidence was found for the relationship between more severe depressive symptoms and more work limitations, and between less clinical improvement and decreased work productivity. The results of this review showed that most research on work outcomes in depressed workers was focused on disorder-related factors, and that in particular personal and work-related factors need to be addressed in future research [27].

Like the study of Lagerveld et al., most studies examining factors associated with work outcomes focus on specific disorders. However, work outcomes may also be predicted by factors regardless of the specific health condition of the worker, particularly since sickness absence and RTW are not only influenced by medical factors but by personal and work-related factors as well [24]. Moreover, the cause of sickness absence is not always clear and the worker and occupational physician (OP) may even disagree about the cause of sickness absence. Therefore, identifying factors that are associated with sickness absence in the general working population is relevant too, as well as identifying factors that are associated with RTW in workers who are sick-listed due to any cause.

In a systematic review, Dekkers-Sanchez et al. identified 16 factors that were significantly associated with long-term sickness absence in workers sick-listed due to any cause. However, they could not establish strong evidence for any of these factors, because all factors were studied only once or twice [24]. Only weak evidence was found for an association of older age and history of sickness absence with a longer duration of sickness absence. Similar to Lagerveld et al., the authors of this review concluded that more research on this topic is needed, particularly on non-medical factors that predict the duration of sickness absence [24].

Given the multifactorial nature of sickness absence and RTW, it follows that a reduction in, or recovery from, depressive symptoms does not automatically lead to RTW. Whether a sick-listed worker returns to work depends on a variety of health-related, personal and environmental factors [23,28]. Consequently, focusing interventions solely at symptom reduction will not lead to a faster RTW. Van der Klink et al. referred to positive results on time-contingent approaches in research on low back pain, and were one of the first to apply this approach in the field of mental health [29]. A time contingent approach implies that the building up of (work) activities is not dependent on the course of symptoms, but follows a prestructured time scheme. In the study of van der Klink et al. among sick-listed workers with an adjustment disorder, an activating time-contingent intervention provided by the OP was found to be more effective in reducing the duration of sickness absence than the usual care of the OP. The level of symptoms decreased in both groups equally [29]. Other studies on workers with mental health problems, examining comparable interventions, found comparable results: interventions that specifically focused on RTW, led to a faster RTW compared with usual care, and an equal decrease in the level of symptoms [30,31]. Moreover, evidence suggests that interventions aimed at RTW need to take into account the work environment and are best delivered by professionals close to, and familiar with, the work environment, such as labor experts or OPs [30,32].

### **Dutch occupational healthcare**

In the Netherlands, responsibility for RTW is shared by the worker and the employer. Entitlement for a disability benefit is determined after a maximum of 2 years of

continuous sickness absence. Until that moment, (at least 70% of the) wages are continued to be paid by the employer and both the employer and worker are responsible for undertaking activities aimed at RTW. Employers are obliged to hire an OP for the sick-listed worker, and sick-listed workers are required to visit the OP within the first 6 weeks of sickness absence. The OP advises on RTW based on a multifactorial problem analysis, and based on that advice, the worker and the employer make a RTW plan. Thus, OPs play a central role in the sickness guidance of Dutch workers. In the OP guidelines for mental health problems of the Dutch Board for Occupational Medicine, 2 different roles for the OP are defined [33]. As a process mediator, the OP guides the worker in the RTW process. In addition, the OP can occupy the 'intervention role,' in which the OP performs primary care interventions such as Problem Solving Treatment (PST) [33].

A complicating aspect of Dutch occupational healthcare however, is the separation of treatment from sickness certification, that was introduced in the Dutch social legislation for more than a century ago. The aim of this separation was to protect the worker's privacy and the relationship with his or her curative physician [34]. One of the drawbacks of this separation though, is the lack of attention in the curative sector for the work functioning of patients, thereby neglecting the importance of (the ability to) work [34]. Another drawback of the separation that is hampering the recovery towards RTW is the lack of communication and agreement between OPs and the curative sector [35,36].

### **Collaborative Care in the Dutch occupational healthcare setting**

Improvement of the care for sick-listed workers with MDD, and in particular improvement of the attention for RTW in treatment, is needed to enhance quality of life of workers and to reduce the costs for society. As mentioned above, previous studies on sick-listed workers suggested that interventions focused on RTW could be best delivered by professionals with expertise on RTW issues [29,32]. In addition, positive results on collaboration between OPs and consultant psychiatrists were attained in a study among sick-listed workers with common mental health problems. In that study, RTW was 68 days faster in the group in which OPs received psychiatric consultation than in the usual care group. This difference was a statistical trend, probably due to the fact that the sample size in this study was much smaller than planned [37]. Building on these findings, a more elaborate form of collaboration between OPs and consultant psychiatrists was evaluated in a randomized controlled trial (RCT) on collaborative care. In that study, OPs were trained and supervised in order to fulfill the role of care manager, i.e. the so-called OP-care managers. Guided by a web-based tracking system and supported by a consultant psychiatrist, the OP-care managers provided the collaborative care treatment to sick-listed workers with MDD. By extending the collaborative care model with a workplace intervention, aimed at eliminating barriers for RTW, and by having the collaborative care treatment applied by an OP-care manager, the intervention in this study was expected to reduce both the duration until RTW and the severity of depressive symptoms. The RCT was called CC:DOC (Collaborative Care: Depression in Occupational health Care) and was embedded in the Depression Initiative. The Depression Initiative is a Dutch program aimed at improving depression care in which collaborative care treatment for MDD was also evaluated in the Dutch primary care setting and the general hospital setting [38-40].

## Outline of this thesis

In this thesis, several factors have been examined for their association with sickness absence and RTW and a collaborative care intervention was examined for its effectiveness on RTW and depressive symptoms. In chapter 2, it is examined which health-related, personal and job-related factors are associated with the duration until full RTW in workers sick-listed due to any cause for at least 4 weeks. In chapter 3, the associations of the Big 5 personality characteristics (neuroticism, extraversion, openness, agreeableness and conscientiousness) and locus of control with absenteeism are examined in a population of healthy workers and workers with depressive and anxiety disorders. The following chapters are about the CC:DOC study, starting with a description of the study protocol of CC:DOC in chapter 4. In chapter 5, the short-term results of the CC:DOC study are presented, describing the effectiveness of collaborative care in the occupational healthcare setting in reducing the severity of depressive symptoms. In chapter 6, results from the 1-year follow-up of CC:DOC are presented, evaluating the effectiveness of collaborative care on the duration until full RTW as well as on the severity of depressive symptoms. The cost-effectiveness of collaborative care for depressed, sick-listed workers is presented in chapter 7. Finally, a general discussion of this thesis is presented in chapter 8, discussing the main findings, methodological considerations and recommendations for practice and further research.

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