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

Vlasveld, M.C.

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## Summary

## SUMMARY

### Major depressive disorder and absenteeism

Major depressive disorder (MDD) is a burdensome disorder, affecting about 15% of the Dutch population once in his or her life. MDD is strongly associated with negative work outcomes such as absenteeism. In the Netherlands, workers with MDD have 7 to 9 times more absence days than their colleagues without MDD. Moreover, almost 80% of the total costs of MDD are due to production losses. In addition to the high costs, prolonged absence from work has important consequences for the life of the depressed, sick-listed worker. Work represents an important aspect of peoples quality of life, by providing income, day structure and opportunities for social contacts. Prolonged absence from work reduces meaningful activity and often increases anxiety to return to work. These consequences of absenteeism may even further aggravate the depression and hamper the workers' recovery. Therefore, return to work (RTW) is important, for workers as well as for society.

### Factors associated with absenteeism and RTW

Absenteeism and RTW are not only related to the medical condition of the worker. Both are influenced by a variety of health-related, personal and environmental factors. Knowledge on the factors associated with absenteeism and RTW is important for the development of interventions aimed at preventing absenteeism and promoting RTW. Since most research so far focused on health-related factors, particularly personal and environmental factors need to be addressed in further research. In this thesis, 2 studies examined factors associated with absenteeism and RTW. **Chapter 2** describes a cohort study among 562 workers with all-cause sickness absence longer than 4 weeks. Several health-related, personal and job-related factors were measured by questionnaire at entry into the study. The dependent variable was derived from the register of the occupational health service and was defined as the duration until full RTW, starting from the first day of sickness absence. One year after the start of sickness absence, 71% of the workers had full RTW, 9.1% resigned and 19.9% did not have full RTW. High physical job demands, contact with medical specialists, high physical symptoms, moderate to severe depressive symptoms and older age were found to be predictors for a longer duration until RTW. Thus, sick-listed workers with high physical job demands, contact with a medical specialist, high physical symptoms, moderate to severe depressive symptoms and older age are at increased risk for a longer duration of sickness absence. Occupational physicians (OPs) need to be aware of these factors to identify workers who will most likely benefit from an early intervention. A limitation of this study is that the associated factors were measured only at entry into the study. It is thus unknown what happened in the period between entry into the study and RTW. In **chapter 3** we examined associations between personality characteristics and absenteeism, using cross-sectional data from the Netherlands Study on Depression and Anxiety (NESDA). Of the 1855 workers, 55.1% had a current depressive or anxiety disorder, 21.7% had a remitted depressive or anxiety disorder and 23.2% had neither a current nor a remitted disorder (i.e. the 'healthy' workers). The Big 5 personality characteristics (neuroticism, extraversion, openness, agreeableness and conscientiousness) were assessed by questionnaire, as well as locus of control. In addition, workers were asked how many days they had been on sickness absence during the past 6 months. The results showed that high neuroticism, external locus of control, low extraversion and low

conscientiousness were associated with both short- and long-term absenteeism (respectively  $\leq 2$  weeks and  $> 2$  weeks). Only subtle differences were found in the associations between workers with a current or remitted depressive or anxiety disorder ('workers with psychopathology') and healthy workers: significant associations between personality characteristics and long-term absenteeism were found for healthy workers as well as for workers with psychopathology. However, the associations between neuroticism and locus of control with short-term absenteeism were found only in healthy workers. Moreover, low openness and low agreeableness were only associated with absenteeism in healthy workers. Thus, the findings of this study suggest that in healthy workers as well as in workers with psychopathology, specific personality characteristics are associated with absenteeism. The finding that some personality characteristics were not related to short-term absenteeism in workers with psychopathology, suggests that in these workers disorder-related factors may be of more importance in predicting short-term absenteeism. These findings need to be taken into account in the development of interventions aimed at preventing absenteeism. Since personality is assumed to be relatively stable, it is the question to what extent interventions are able to substantially change personality characteristics. Nevertheless, interventions may be specifically tailored to workers with specific personality characteristics and to (dealing with) the problems that these workers often encounter. One of the limitations of this study is the cross-sectional study design, which limits us to reporting associations instead of causal relationships. Moreover, suffering a depressive or anxiety disorder may influence the assessment of personality characteristics. As a consequence, personality assessments in patients who currently suffer a depressive or anxiety disorder will only provide valuable information on their personality as long as they are depressed or anxious.

### **Return to work**

As described above, promoting RTW is very important for sick-listed workers with MDD. Previous research showed that a reduction in depressive symptoms will not automatically lead to a recovery in work functioning. Consequently, focusing treatment solely on symptom reduction will not lead to a faster RTW and therefore, a focus on RTW in treatment is essential. However, current treatment of sick-listed workers with MDD often lacks that focus. Moreover, there is a lack of communication and collaboration between OPs and curative physicians, and waiting lists often hamper a referral to specialized mental health care.

### **Collaborative care in the occupational healthcare setting**

To overcome the abovementioned barriers, we performed a study among 126 workers with MDD who were sick-listed between 4 and 12 weeks. In this randomised controlled trial (RCT), the (cost)effectiveness of a collaborative care treatment for MDD was compared to usual care. Collaborative care was originally developed as a primary care treatment model for MDD. In collaborative care, a care manager coordinates care, provides a short, structured primary care intervention such as Problem Solving Treatment (PST), and monitors treatment progress regularly. A psychiatrist is available for consultation. In our study, the collaborative care treatment was provided by especially trained OPs, i.e. the OP-care managers, and a workplace intervention was added to the collaborative care treatment. In the workplace intervention, the worker, employer and OP-care manager collaborate in removing barriers for RTW. A web-based tracking system was developed to support the OP-care manager in following the

treatment protocol. By combining the workplace intervention with interventions aimed at the worker (such as PST) and by having the collaborative care treatment applied by an OP-care manager, the collaborative care treatment was aimed at reducing the duration until RTW and reducing depressive symptoms. Participants for the study were recruited by screening with the depression scale of the Patient Health Questionnaire, the PHQ-9. After that, a diagnostic interview was administered by telephone to check whether the participants actually met the DSM-IV criteria for MDD. After inclusion in the study, the participants were randomised in the collaborative care group or the usual care group. In both groups, the participants received sickness guidance as usual by their company's OP. However, only the participants allocated to the collaborative care group also received the collaborative care treatment by the OP-care manager. Data were collected at baseline and at 3, 6, 9 and 12 months after baseline. In **chapter 4**, the study protocol of this RCT is described more extensively. In **chapter 5**, short-term results of this study are presented with respect to depressive symptoms. At 3 months after baseline, more participants in the collaborative care group had response (at least a 50% reduction in symptoms) than in the usual care group. However, for depressive symptoms as continuous outcome measure, no effect for collaborative care could be found. In post hoc analyses, collaborative care was found to be more effective than usual care among participants with moderately severe depression at baseline. In **chapter 6**, the results of the 12-month follow-up are presented, reporting on the effectiveness of collaborative care on RTW as well as on depressive symptoms. The results showed that collaborative care led to a faster response than usual care. However, the 2 groups did not differ from each other in the duration until RTW, depressive symptoms as continuous outcome measure and the odds on response or remission. There are several possible explanations for these disappointing results. First, only two thirds of the collaborative care participants actually started the collaborative care treatment. Due to a lack of available OP-care manager, long waiting lists for the collaborative care treatment occurred, which may have demotivated participants for starting the collaborative care treatment. In addition, because of the separation of treatment and sickness certification in Dutch social legislation, workers may not be used to the treatment role of the OP-care manager. This may have inhibited them as well in visiting the OP-care manager. Second, the workplace intervention was applied to only a small number of collaborative care participants. Since particularly the workplace intervention was aimed at RTW, this reduced the chance of finding an effect on RTW enormously. Finally, relatively many usual care participants received psychological treatment, which reduced the contrast between the collaborative care group and the usual care group even more. **Chapter 7** presents the cost-effectiveness of collaborative care. Although the direct medical costs were lower in the collaborative care group, the 2 groups did not differ from each other in productivity costs. Quality of life improved in both groups, but to a greater extent in the usual care group than in the collaborative care group. The cost utility analysis showed that collaborative care was not more cost-effective than usual care.

## Discussion

In **chapter 8**, the main findings of this thesis are summarized, interpretations of these findings are discussed and a number of recommendations for further research and practice is made. Based on our results, a widespread implementation of this collaborative care model in the occupational healthcare setting, as was operationalized in our study, is not recommended. A dual focus on RTW and symptom reduction remains important in

the treatment of depressed, sick-listed workers. However, future research needs to examine how that focus can be best put into practice. The finding that collaborative care did lead to a faster response, suggests that there may be grounds to further explore collaborative care models in the occupational healthcare setting. In that case, it needs to be examined which health professional can best fulfill the role of care manager. Another approach to improve care for sick-listed workers with MDD may lie closer to the process mediator role of the OP, as is described in the OP guidelines for mental health problems of the Dutch Board for Occupational Medicine. In line with the OP guidelines, further research may then focus on improving referral to, and monitoring of, adequate treatment by the OP and on improving collaboration and communication between the OP and the curative sector. It would be interesting as well to examine whether the effectiveness of interventions can be improved by tailoring them to the specific (personality) characteristics or needs of workers. Besides that we do not recommend a widespread implementation of this particular collaborative care model in the occupational healthcare setting, our findings have several other implications for practice as well. First, screening of sick-listed workers for depressive and physical symptoms may support OPs in identifying workers with an increased risk for a longer duration of sickness absence. Second, our results underline the importance of communication between OPs and medical specialists. When sick-listed workers visit a medical specialist, it is important that the OP and the medical specialist discuss functional limitations and possibilities for RTW in order to prevent conflicting advises. Since attention for RTW is often limited in the curative sector, more education on this issue may lead to more attention for work issues in the curative sector and to better communication with OPs. Third, for sick-listed workers with high physical job demands, work(place) modifications may be considered by OPs, aimed at (temporarily) reducing the physical demands in a job. Finally, workers with a vulnerable personality probably have a lower threshold to report sick (for a long time) than others. OPs and employers need to be alert on these workers because they will most likely benefit from an early intervention.