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Predictors of impaired work functioning in employees with major depression in remission ☆

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ABSTRACT

Objectives: This study aims to (i) assess work functioning in employees returning to work with a major depression in remission, (ii) study the predictors of impaired work functioning.
Methods: Participants diagnosed with major depressive disorder (MDD), on long term sick leave (mean 27 weeks) and treated in a specialized mental healthcare setting, were selected from an intervention study sample. They were eligible for this study if they were remitted from their depression and had returned to work for at least 50% of their contract hours at 18 month follow-up. Work functioning was assessed with the Work Limitations Questionnaire (WLQ) and the Need For Recovery scale (NFR). Potential predictors of impaired work functioning were demographic characteristics (assessed at baseline), health characteristics (assessed at baseline, six and twelve month follow-up), and personality- and work characteristics (assessed at 18 month follow-up).
Results: After their return to work with MDD in remission, employees were on average still impaired in their work functioning. Personality characteristics were the strongest predictor of this impaired work functioning, followed by health and work characteristics. In the final prediction model, only a passive reaction coping style remained as predictor.
Limitations: We used self-report data with respect to work functioning and work characteristics and not an assessment by a supervisor.
Conclusions: Personality trait, coping style, and ability to manage the work environment should be addressed in mental health and return-to-work interventions. Subsequent improved work functioning may be beneficial for mental health and may reduce societal costs.

1. Introduction

Major depression (MDD) is a prevalent mental health problem in the working population (Kessler et al., 2008; Blackmore et al., 2007) which can have important adverse effects on employee's work performance, both due to reduced work functioning and frequent or long-term absenteeism (Lépine and Briley, 2011; McIntyre et al., 2011; Lerner and Henke, 2008). Over the past two decades, interest in reduced functioning has increased because of the great financial consequences for society, which have now been calculated in more detail (de Graaf et al., 2012; Goetzel et al., 2004; Stewart et al., 2003). These economic consequences are also referred to as the hidden costs of MDD (McIntyre et al., 2011).

Treatment and subsequent symptomatic improvement may improve work functioning (Dewa et al., 2011; Lagerveld et al., 2010). However, other studies show that even after achieving remission from depression, impaired work functioning may still persist (Trivedi, 2013; Lerner and Henke, 2008; Gilmour and Patten, 2007). Studies that examine the relationship between depression and return to work (RTW) in more detail, including intervention studies that consider work functioning as an outcome

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measure are scarce (Nieuwenhuijsen et al., 2014; Lagerveld et al., 2010). To our knowledge none examined the limitations in work functioning in employees with MDD in remission, a phenomenon known as presenteeism (Koopman et al., 2002).

Work functioning refers to the capacity of an individual employee to adequately meet work responsibilities (Boezeman et al., 2015; Abma et al., 2012; Lerner et al., 2010). Impaired work functioning refers to the experienced work limitations by an individual worker (Abma et al., 2012; Lerner et al., 2010). Alongside experienced work limitations, workers with MDD may be able to achieve normal productivity, but this may require elevated physiological and/or psychological effort (Dewa and Lin, 2000). This extra effort results in an elevated and excessive need for recovery from work after work hours. This need for recovery can be distinguished from the fatigue we know as a symptom of depression; the latter is a generic feeling that does not only occur at the end of a working day and is often more severe in the morning. Therefore, it seems important to use a definition of work functioning that not only includes work limitations, but also takes the need for recovery into account.

In the literature, there have been several explanations as to why employees who are remitted from their MDD still may experience reduced work functioning. Firstly, residual symptoms of a depressive episode that persist over time may result in impaired work functioning (Spijker et al., 2004). Secondly, reduced work functioning, which increases during MDD, may return to its premorbid but already impaired level after remission Ormel et al. (2004). Finally, exposure to (renewed) work stress in combination with residual symptoms or impaired premorbid work functioning may lead to additional work limitations (Lerner et al., 2010; Wang et al., 2010; Gilmour and Patten, 2007).

In addition to RTW, sustained RTW or return to work in good health (MDD in remission) may be relevant outcomes both from a health and an economic perspective. This holds in particular for MDD, because of its long-term course with different levels of residual or subclinical symptoms, a high rate of recurrence (ten Doesschate et al., 2010; Hardeveld et al., 2010) and sickness absence Endo et al. (2012). However, studies focusing on these outcomes are scarce (Hees et al., 2013, 2012; Virtanen et al., 2011; Arends et al., 2014). Moreover, previous studies on the relationship between depression and work functioning did not distinguish between patients with MDD and patients with MDD in remission, or only focused on specific category of predictors (e.g. illness characteristics or work characteristics) (Trivedi et al., 2013; Lerner et al., 2012, 2010; Lagerveld et al., 2010).

In the present study, we investigated in a sample of employees that were in good health, which means in remission after being adequately treated for MDD, and on RTW for at least 50%. We assessed their level of work functioning and aimed to predict this level by variables across four different categories; social-demographic, clinical, personal, and work-characteristics.

2. Method

2.1. Participants

Data were obtained from patients that participated in a randomized controlled study on the effectiveness of adding occupational therapy intervention to regular outpatient clinical care, for sick-listed employees with MDD ($n=117$) (Hees et al., 2010, 2013). This study was approved by the medical ethics committee of the Academic Medical Center in Amsterdam, the Netherlands (MEC 06/285) and registered with the Dutch Trial Register (NTR2057). Written informed consent was obtained from all participants in the study.

Participants were eligible for this study if they were aged 18–65 years, diagnosed with MDD according to DSM-IV criteria, and were absent from work in relation to MDD for at least 25% of their contract hours. In addition, the duration of MDD had to be at least three months or the duration of sickness absence had to be at least eight weeks, in order to ensure that only those with a more severe and non-self-limiting type of MDD were included. Participants with a diagnosis of alcohol or drug dependence, bipolar disorder, psychotic disorder, depression with psychotic characteristics, or an indication for inpatient treatment were excluded from the study. Participants were referred by occupational physicians from several occupational health services in the Amsterdam area. They received treatment as usual (TAU) or treatment as usual plus occupational therapy (TAU+OT). Participants had four assessments: at baseline and at 6, 12 and 18 months follow up.

For the present study participants were eligible if (a) at 18 months follow-up MDD was in remission as defined by a score ≤ 7 on the Hamilton Depression Rating Scale (HDRS), and (b) at 18 months follow-up they were at work for at least 50% of their contract hours. In total, 68 participants fulfilled these criteria and were included in the current analyses.

2.2. Dependent variables

Work functioning in this study reflects to the experienced work limitations, assessed with the Work Limitation Questionnaire (WLQ, Lerner et al., 2001) and the need for recovery, assessed with the Need For Recovery scale (NFR, van Veldhoven and Broersen, 2003). Both were assessed at 18 months follow-up.

The WLQ is a validated self-report questionnaire to assess the impact of health problems, including depression, on at-work performance and productivity (Lerner, 2001, 2003). The WLQ has four scales that cover dimensions of performance: (1) time management (e.g. performing required hours), (2) physical tasks (e.g. ability to perform required sitting or standing period of time), (3) mental-interpersonal tasks (e.g. ability to concentrate and support colleagues), and (4) output tasks (e.g., handling the workload and finishing work on time). Scale scores range from 0% (limited none of the time) to 100% (limited all of the time). The index score is the weighted sum of the four scale scores, with a range from 0 (no limitations) to 28.6 (limited all of the time). The WLQ has good reliability (Cronbach α for all subscales ≥ 0.84) and concurrent validity (Lerner et al., 2001).

The NFR scale items assess fatigue effects of work-induced efforts and is a subscale of the Dutch Questionnaire on the Experience and Evaluation of Work (Dutch abbreviation: VBBA; van Veldhoven et al., 2002). The concept covered by the NFR scale has been deduced from the effort-recuperation model by Meijman and Mulder (1998) and refers to the extent of necessary recuperation from work-induced effort. The NFR scale comprises 11 dichotomous items assessing the occurrence of temporary feelings of overload, irritability, social withdrawal, lack of energy and reduced performance. Because participants were asked to answer the questions with respect to a regular working day, it is believed to measure the actual effect of work on the respondent representing a different underlying concept (Jansen et al., 2002). The NFR total score ranges between 0 and 100 with a higher score referring to an increased need for recovery. The NFR scale has good reliability (Cronbach $\alpha=0.88$) and concurrent validity (van Veldhoven and Broersen, 2003).

2.3. Potential predictors

Based on previous research (Merril et al., 2012; Verboom et al., 2011; Cocker et al., 2011; Lagerveld et al., 2010; Wang et al., 2010; Lerner et al., 2010) potential predictors were categorized into four