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### Internet Interventions

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# Feasibility of a worker-directed web-based intervention for employees with depressive symptoms



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#### A R T I C L E I N F O

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#### ABSTRACT

Depressive disorders are highly prevalent in the working population and lead to excessive costs. Online interventions have shown to be effective treatments for depression but are not often applied in the work setting, despite the importance of work related aspects in the development and perpetuation of depression. We developed a worker-directed web-based intervention for employees with depressive symptoms named Happy@Work. A process evaluation was conducted alongside a randomized controlled trial to assess the feasibility of the intervention and to explore barriers and facilitators for further implementation of the intervention. Employees from different companies in the Netherlands who experienced elevated depressive symptoms and were not on sick leave were eligible to take part in this study. Happy@Work contains six lessons and every lesson has several assignments. When completed, a coach provides feedback to assignments via the website. Process measures investigated were: reach, dose delivered, dose received, and fidelity. Recruitment methods and participant satisfaction with the intervention were described and analyzed as well. Data was collected at baseline and 8 weeks later via online questionnaires and data registrations on the website. The implementation score of the intervention was sufficient, but reach of the target population was low. The dose delivered was high, with 93.1% of participants who used the intervention components that were offered to them. However, adherence to the intervention was low; the dose received was 57.8%. The fidelity of the implementation of the intervention was satisfactory. Recruitment of companies and participants was difficult. Participants were satisfied with the different aspects of the intervention, especially with the feedback from the coach. The results of this process evaluation showed that the intervention was conducted according to protocol and seems feasible for further implementation. Potential barriers to further implementation of the intervention include the reach of the target population, intervention adherence and the quality of the feedback. Based on the results of the effectiveness of the intervention, we do not recommend further implementation of the intervention in its current form.

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#### 1. Introduction

Depressive disorders are highly prevalent in the working population (OECD, 2012; Wang et al., 2006) and lead to excessive costs for both society and employers (Berto et al., 2000; Greenberg and Birnbaum, 2005; Smit et al., 2006; Thomas and Morris, 2003). About 70–85% of

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the total costs are due to work absenteeism, work impairment and loss of work productivity, which implies that companies pay the largest part of the costs of depression (Lerner and Henke, 2008; Henderson et al., 2005; de Graaf et al., 2011; Smit et al., 2006; Thomas and Morris, 2003).

Many studies on the treatment of depression in mental health care have shown that depression can be treated effectively with different types of psychotherapy such as cognitive behavior therapy, interpersonal therapy, and problem solving therapy (Barth et al., 2013; Cuijpers et al., 2011, 2013). In the past decade, ample research has shown that these treatments can also be delivered successfully through the Internet (Andersson and Cuijpers, 2009; van't Hof et al., 2009; Richards and Richardson, 2012; Spek et al., 2007), which has several advantages such

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as reduction of therapist time, high accessibility, increased user control of the intervention, and cost savings (Cuijpers et al., 2008; Griffiths et al., 2006).

Despite the importance of work related aspects in the development and perpetuation of depression (Nieuwenhuijsen et al., 2008; Szeto and Dobson, 2013) and the large impact on absenteeism and work productivity (Lerner and Henke, 2008; Henderson et al., 2005) not much is known about worker-directed interventions for employees with depression and the results of the few studies that have been conducted thus far are inconsistent (Blonk et al., 2006; van der Klink et al., 2003; Nieuwenhuijsen et al., 2008; Rebergen et al., 2009; Schene et al., 2007). Web-based interventions may be of particular interest to employees due to high user control as they can work through the intervention at their own pace and outside working hours. However, to the best of our knowledge, web-based interventions for the treatment of depression in the workplace have not been studied yet.

Therefore we developed a guided web-based worker-directed intervention for employees with depressive symptoms who are not absent from work due to illness (sick-leave), named Happy@Work. The intervention is aimed at reducing the employee's depressive symptoms, and we postulate that in turn this may reduce work absenteeism and loss of work productivity, which will result in cost savings for the employer. The effectiveness of the intervention is described elsewhere and some of the information in this manuscript has also been reported in those papers (Geraedts et al., 2013, 2014b).

In order to get detailed information on the feasibility of the intervention a process evaluation was conducted alongside the RCT. Performing a process evaluation alongside a randomized controlled trial has been recommended by several authors (Kristensen, 2005; Linnan and Steckler, 2002; Oakley et al., 2006; Saunders et al., 2005) 1) to facilitate the interpretation of study findings by providing detailed information on the implementation of the intervention (Oakley et al., 2006) 2) to gain insight into barriers and facilitators of the implementation of the intervention that was used in the RCT, which can be used to further improve the intervention, and 3) to guide further implementation of the intervention into routine practice (Grol and Grimshaw, 2003; Oakley et al., 2006; Rychetnik et al., 2002).

This paper describes the process evaluation of the web-based intervention Happy@Work. The primary goal is to investigate the feasibility of the intervention by describing the process systematically. The second objective is to explore possible barriers and facilitators for future implementation of the intervention into routine practice.

#### 2. Method

This process evaluation was conducted alongside a randomized controlled trial, which was conducted from 2011 to 2014, in which we studied the effectiveness and cost-effectiveness of a web-based guided self-help course for employees with depressive symptoms who were not on sick-leave compared to a care-as-usual (CAU) control group. This study was approved by the Medical Ethics Committee of the VU University Medical Center (registration number 2011/2) and the details of the design of the study are described elsewhere (Geraedts et al., 2013).

#### 2.1. Recruitment of participants

A total of six (international) companies participated in the study. Participants were recruited via different methods, such as banners on the company's intranet, pamphlets and posters. No other recruitment methods than self-referral were used. Employees from participating companies were eligible to take part in this study if they were 18 years of age or older, had mild to severe depressive symptoms as measured by a score of 16 or higher on the Center for Epidemiological Studies — Depression (CES-D) scale (Bouma et al., 1995), were not on full or partial sick-leave, and had access to the Internet and an e-mail address. Employees were excluded from the study if they were using medication for depressive symptoms for less than one month, or if they had a legal labor dispute with their employer. All interested employees who met the inclusion criteria were randomized to one of the groups. In this process evaluation we will only report data from the intervention group (n = 116), since they were the only group exposed to the intervention.

#### 2.2. Intervention protocol

The intervention Happy@Work is a brief web-based intervention delivered with guidance from a coach. It is based on Problem Solving Treatment (PST) (Bowman et al., 1995), Cognitive Therapy (CT) (Beck et al., 1979), and a guideline for employees to help them prevent work related stress (Franck and Wiezer, 2004a,b). In PST, it is assumed that depressive symptoms can be caused by practical problems that people face in their daily lives. It is believed that, when people can resolve their problems, their symptoms of depression will decrease (Warmerdam et al., 2008). Different PST methods can help them solve their problems. Sometimes problem solving can be disrupted by automatic thoughts such as "I am too weak to solve this problem" or "I will fail solving this problem". PST may not be sufficient to change these automatic thoughts. Therefore, we incorporated CT information and assignments to support a change in automatic thoughts (Beck et al., 1979). Some of the problems that people face are likely to be workrelated. These problems are sometimes more difficult for people to comprehend (Franck and Wiezer, 2004a,b). Therefore, one lesson is focused on work-related problems specifically.

Happy@Work consists of six lessons and each lesson follows the same structure; information about the theme of the lesson, examples from fictitious participants, and assignments. In addition, participants were given the opportunity to keep a daily mood diary throughout the intervention, by grading their mood between 1 and 10. The diary also allows for a brief text description of positive and negative events that occurred that day. The assignment of the mood diary was optional, which was informed to the participant during the first lesson, and was not seen as necessary to successfully follow the course. A detailed description of the lessons can be found in Table 1 and screenshots of the intervention can be found in Supplementary file 1.

The following procedure was applied. When participants were eligible to take part in the study and randomized to the intervention group, an account was generated on the Happy@Work website by the researchers and a coach was assigned. Next, an automatic e-mail was sent to the e-mail address of participants containing a link to activate the account and the option to create their own password. This allowed participants to log on to the website, to start with lesson one of the intervention, and to access the mood diary. The coach received an e-mail whenever a participant had finished a lesson and provided feedback within 3 working days via the website. Participants received an automatic e-mail as soon as the feedback was posted on the website containing information on the theme of the next lesson and the deadline for completion. The participants were permitted to start with a new lesson when they had received the feedback (i.e. tunneled intervention).

The total duration of the intervention was seven weeks. Participants were advised to follow one lesson each week and were given one week extra time in case of delay. The daily mood diary could be used for eight weeks. When deadlines for completion were not met, e-mail reminders were sent by the researchers. If participants had not shown activity on the website for a period of three weeks, they were considered intervention drop-outs and received an e-mail with a link to a short online questionnaire to identify drop-out reasons. Participants were allowed to continue with the intervention after they received the e-mail with the drop-out questionnaire. The same questionnaire was sent to participants who decided to discontinue the intervention, which could be announced via e-mail to the researchers or via the website to the coach.

All coaches were Master's level students in clinical psychology that had followed a six hour training. All coaches used a detailed manualized Download English Version:

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