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Cognitions and perceptions of workers with a chronic disease

Development and evaluation of a training program for occupational health professionals

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General introduction

General introduction

Working with a chronic disease

The number of people in Europe with a chronic disease is rising.[1-3] A chronic disease is defined as 'a disease with a long duration and generally slow progression'.[4] According to the Public Health Status and Foresight Report of 2014 published by the Dutch National Institute for Public Health and the Environment (RIVM) the percentage of people living with a chronic disease in the Netherlands will rise from approximately 32% in 2014 to 40% in 2030.[3] This is partly because of early diagnosis and improved treatments which will ensure that people with a chronic disease live longer.[1, 3] As a result of the rising life expectancy of people, many countries have increased the state pension age. This has led to an increase in the number of people of working age with a chronic disease.[5]

People with a chronic disease more often experience poor health, fatigue, pain or functional limitations than people without a chronic disease, which can have a negative impact on their work participation.[6-10] A review and meta-analysis on associations between poor health and exit from paid employment of Van Rijn et al.[8] indicated that having a chronic disease increased the possibility for transition into disability pension or unemployment. These results were confirmed in a longitudinal study by Scharn et al.[9] among more than 21,000 people, which revealed that individuals with a chronic disease were less likely to have paid work compared to individuals without a chronic disease. A longitudinal cohort study of De Boer et al.[10] showed that having a chronic disease increased the possibility for unemployment, leaving paid employment, disability pension and early retirement.

Although having a chronic disease may have a negative effect on work participation, people with a chronic disease perceive work as very important to them.[11, 12] Work is a source of income, it provides them with social contact and it generates a feeling of being useful for society. Work is also perceived as important for the identity and pride of the worker with a chronic disease. Moreover, work helps them maintain mental and physical health.[11, 12] Because of the importance of work for this vulnerable group, along with possible negative impact of their limitations on their work status, it is very important to encourage and support people with a chronic disease to increase work participation.

Occupational health professionals in the Netherlands

Occupational health professionals (OHPs) have a key role when it comes to increasing work participation of people with a chronic disease. In the context of

this thesis, we refer to OHPs as those in the Netherlands who make important decisions regarding work participation or receiving benefits for workers with health problems: occupational physicians (OPs) and insurance physicians (IPs). According to the Dutch Gatekeeper Improvement Act (in Dutch: Wet verbetering poortwachter), the employer is required to pay at least 70% of the salary of the worker on sick leave for a period of two years.[13] This period can be extended to three years if the employer does not fulfill the obligations of the Act. The main role of the OP in this process is to prevent work-related diseases, promote health, and promote return to work in case of sick leave of the worker. When sick leave lasts for a longer period of time, the IP reviews whether the obligations described by the Gatekeeper Improvement Act are fulfilled and reviews the efforts of the worker, employer, and OP to promote the return to work. The IP assesses the functional abilities of the worker on sick leave, assesses whether the worker should receive a work disability benefit in consultation with the labor expert, and can provide recommendations to promote work participation.

Due to these tasks of OPs and IPs in the occupational health management and work disability assessment, both types of practitioners are involved in supporting the work participation of people with a chronic disease in the short and long run. The increase in the number of people of working age with a chronic disease makes the expertise of OHPs and their efforts to support work participation very important.

Factors affecting work participation

To be able to support work participation, OHPs need to be aware of the different factors which can influence work participation of people with a chronic disease. The main categories of factors that can explain differences in work participation in people are outlined by the International Classification of Functioning, Disability and Health (ICF) framework (Figure 1).[14,15] According to this framework, differences in functioning and disability are caused by an interaction between health conditions (disorder or disease) and contextual factors which can be subdivided into environmental factors and personal factors.[15] Environmental factors are defined as the physical and social environment in which the individual lives and conducts his or her life. Personal factors are defined as the particular background of an individual's life and living and comprise characteristics of the individual that are not directly part of the disease or disorder, such as the age, gender, profession, and thoughts and behavior of the individual.[15] Previous research has focused on the association between a wide range of environmental and personal factors and work participation of people with a chronic disease.[16-21] For example, when looking

at personal factors there is consistent evidence that being of older age, being female, and having a lower education can negatively influence work participation of people with a chronic disease.[16, 18-21]

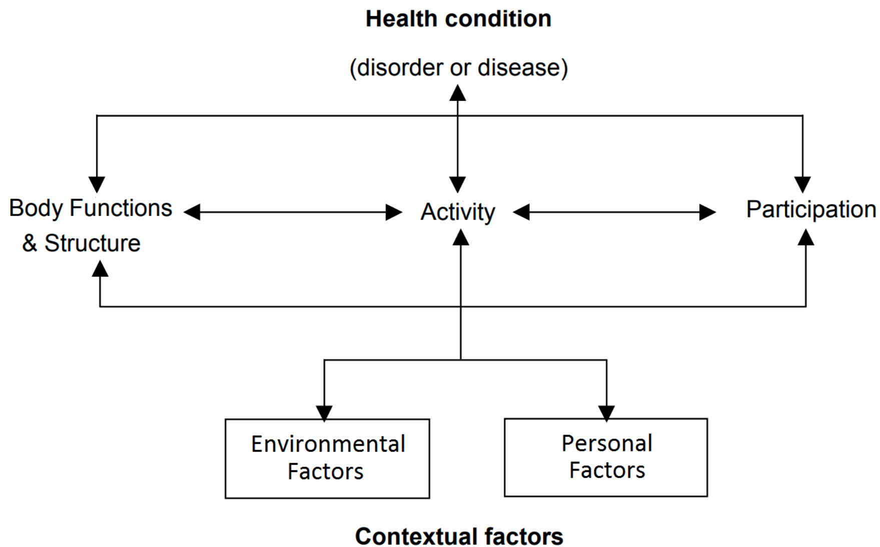

Figure 1. The International Classification of Functioning, Disability and Health[14]

Cognitions and perceptions and work participation

Personal factors that receive increasing attention are cognitions and perceptions of people with a chronic disease, here defined as the thoughts an individual has concerning his or her disease and concerning work participation. The increased attention for cognitions and perceptions is caused by a paradigm shift in health care, in which person-centered care becomes more important.[22] In person-centered care, the person instead of the disease is seen as the center of the health system, and the views of the person with the disease or disorder guide the healthcare.[23]

Also, in the occupational health field, person-centered care becomes more important. OHPs need to involve the views of workers during their practices to promote work participation. Cognitions and perceptions of workers are very important in this. Considering cognitions and perceptions may help OHPs in their efforts to increase work participation of workers with a chronic disease.

However, knowledge concerning cognitions and perceptions and the best way to involve these factors in the occupational health management and work disability assessment is scarce.

Previous studies indicated that cognitions and perceptions can positively or negatively influence health or recovery from illness.[24-26] Although this fact might indicate that cognitions and perceptions can also influence work participation, no clear overview of evidence of cognitions and perceptions associated with work participation is available for OHPs. Knowledge on cognitions and perceptions, can make OHPs more aware of the cognitions and perceptions they should consider in the occupational health management and work disability assessment of workers witch a chronic disease.

For OHPs to take these factors into account during their practices, they need to know how to identify limiting or promoting cognitions and perceptions from workers with a chronic disease. In contrast to other personal factors such as age, gender, and profession, cognitions and perceptions of workers are not easy to observe by OHPs. To identify cognitions and perceptions, it is crucial that OHPs obtain information from workers concerning these thoughts. Different methods are described in the literature for OHPs to obtain information from workers. For instance, OHPs can obtain information through screening questionnaires, conducting consultations, or from significant others of clients who are present during consultations.[27, 28] Little is known about the ways OHPs currently obtain information concerning cognitions and perceptions from workers with a chronic disease. It is currently not well-known which method is best to obtain information concerning cognitions and perceptions. Knowledge from the daily practice of other OHPs and from workers on how to obtain information concerning cognitions and perceptions might help OHPs to identify the limiting and promoting cognitions and perceptions for work participation.

It is important for OHPs to know how these cognitions and perceptions can be modified to increase work participation. OHPs should be able to recommend interventions toward limiting cognitions and perceptions. However, no recent review of interventions that influence work participation through effecting cognitions and perceptions is available.

Training program for OHPs

To put it plainly, information for OHPs about the involvement of cognitions and perceptions in their occupational health management and work disability

assessment is deficient. However, even when this information is available, OHPs do not necessarily automatically use this information in practice. Previous studies have shown that it is difficult to translate evidence-based knowledge into practice.[29, 30] For example, health professionals do not always follow evidence-based guidelines during their practice.[31, 32] Various barriers are identified for using evidence-based knowledge in practice by health professionals, such as a lack of time to read and get familiar with the evidence-based knowledge, a lack of awareness for the existence of it, or a lack of ability to use it.[32-34] Because translating evidence-based knowledge into practice often requires OHPs to change their behavior, it is important to look at effective ways to do so.[35]

The Behavior Change Wheel can be used as a guide to design interventions that are effective for changing behavior and has been successfully applied in previous studies for behavior change of OHPs (Figure 2).[35, 36] The Behavior Change Wheel is a framework for behavior change which consists of different layers. The hub of the wheel is the Capability-Opportunity-Motivation Behavior (COM-B) model, which identifies three essential conditions for behavior: capability, opportunity and motivation. Interventions need to change one or more of these conditions in order to change behavior. The wheel identifies different intervention types or functions to choose from, in order to change these conditions for behavior.[35]

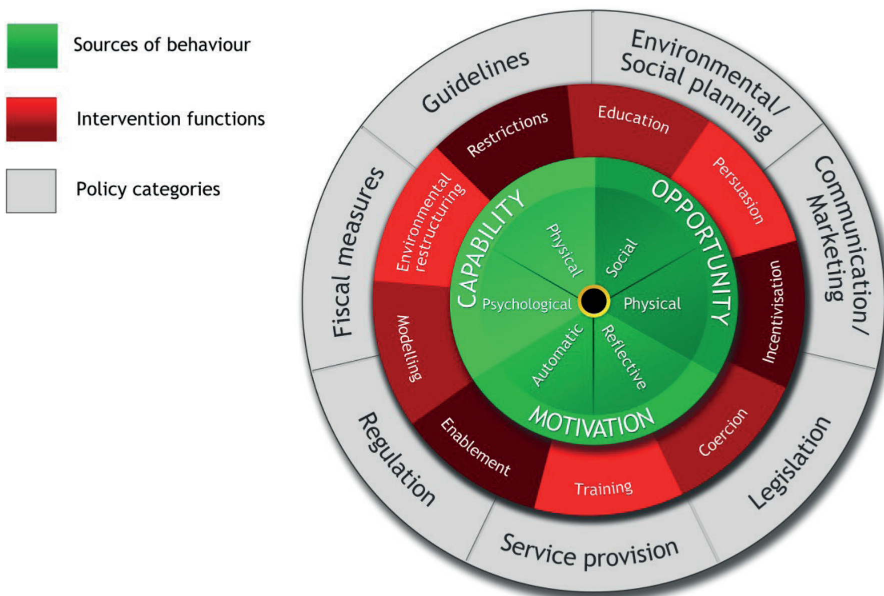

Figure 2. The Behavior Change Wheel[35]

To involve cognitions and perceptions in the occupational health management and work disability assessment of OHPs, it is most important that we increase the capability of OHPs for doing so. According to the Behavior Change Wheel, capability can be achieved by education and training. A training program with education to increase knowledge concerning cognitions and perception and training to increase skills to involve these factors during practice may be the most effective way to make sure that OHPs involve cognitions and perceptions during the occupational health management and disability assessment.

Aim of the thesis

The main objective is to gain more knowledge on how OHPs can involve cognitions and perceptions in the occupational health management and work disability assessment of workers with a chronic disease. Part I of this thesis focuses on acquiring knowledge from the literature, from OHPs and from workers with a chronic disease regarding cognitions and perceptions associated with work participation. Part II of this thesis describes the development and evaluation of the training program for OHPs to involve cognitions and perceptions in daily practice. The following research questions will be addressed in this thesis:

Part I: Acquiring knowledge about cognitions and perceptions

1. Which cognitions and perceptions of workers are associated with work participation? (**Chapter 2**)
2. How can information about cognitions and perceptions best be obtained from workers? (**Chapter 3** and **Chapter 4**)
3. Which existing interventions are focused on cognitions and perceptions and aimed at increasing work participation? (**Chapter 5**)

Part II: Development and evaluation of a training program on cognitions and perceptions

4. Is a training program on involving cognitions and perceptions in the occupational health management and work disability assessment feasible from the perspective of OHPs? (**Chapter 6**)
5. What is the effect of a training program for OHPs on the ability to involve cognitions and perceptions in the occupational health management and work disability assessment of workers with a chronic disease? (**Chapter 7**)

Outline of the thesis

Part I

In the first part of this thesis, knowledge is acquired on cognitions and perceptions associated with work participation. **Chapter 2** describes a systematic review of literature to identify the different cognitions and perceptions associated with work participation. **Chapter 3** presents a questionnaire study among OHPs about their opinion regarding the importance of cognitions and perceptions. In addition, this chapter describes how these OHPs currently obtain information concerning different cognitions and perceptions and which method is according to them the best method to obtain this information. To gain insight into the perspective from workers with a chronic disease concerning the best method for OHPs to obtain information regarding cognitions and perceptions, a focus group study was conducted which is described in **Chapter 4**. Finally, a scoping review was conducted to get an overview of interventions that are focused on cognitions and perceptions and aimed at improving work participation, which is presented in **Chapter 5**.

Part II

In the second part of this thesis, information about the development and evaluation of the training program for OHPs is presented. **Chapter 6** describes the development of the training program on involving cognitions and perceptions in the occupational health management and work disability assessment of workers with a chronic disease. In addition, this chapter describes how OHPs who participated in the training program evaluated the feasibility of the training program directly after participation as well as three to six months after participation. **Chapter 7** describes a randomized controlled trial in which effects of the training program on identifying cognitions and perceptions and recommending interventions toward cognitions and perceptions are studied. This thesis ends with the general discussion in **Chapter 8**, in which results are discussed and recommendations for research and practice are described.

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