Supporting work participation of people with a chronic disease
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CHAPTER 1
General introduction
General introduction

Chronic disease: Diagnosis and prevalence
In the European Union, 28% of working-age people (18-65 years old) have chronic diseases [1]. Next to a large number of working-age people having a chronic condition, the number of people with a chronic disease increases [2]. A first reason is that through advances in medical treatments and rehabilitation, formerly lethal diseases have become chronic [3,4]. Second, the prevalence of people with unhealthy lifestyles is rising, which largely influences the development of various chronic diseases, such as diabetes, heart diseases and cancer [5]. Finally, because the prevalence of chronic diseases is higher in older people [1], the raising of the pension age in many Western countries increases the total number of people with a chronic disease in the working population. Consequently, a large and increasing number of people of working age are faced with a chronic disease.

In the present research, chronic diseases were defined as diseases that last for three months or longer and are characterised by lasting or recurring symptoms and limitations [6] without signs of recovery [7]. This is in line with the definition of the World Health Organization (WHO), which defines a chronic disease as a ‘medical condition or disease which is non-infectious and characterised by a long duration and slow progression’ [6].

Chronic disease and work participation
Not only do a significant number of the working-age population have a chronic disease, but also a substantial number of the working population with chronic diseases experience limitations due to their condition [5]. Examples are fatigue, pain or lack of concentration, which limits individuals’ ability to perform work tasks [8-11]. As people’s ability to participate in work is negatively affected by their condition, either maintaining work or returning to work can be a problem [12]. Research shows that people with a chronic disease are less often employed [12-14] and on average work fewer hours in comparison with the general population [12]. In this thesis, we use the term ‘work participation’ in two ways, namely to refer to people with chronic diseases who 1) remain at work or 2) return to work (RTW) doing the same or another job.
Value of work participation
Although having a chronic disease can negatively influence participation in work, individuals highly value the ability to participate in work [15] and report work participation to be an important rehabilitation goal [8,16]. Participating in work enhances both mental and physical health [15,17] and generally contributes to a higher quality of life [18], as work provides social contacts, structures everyday life, distracts from the chronic disease [15] and provides a sense of belonging and self-worth [19]. In addition, people with a chronic disease see the ability to participate in work as indicative of ‘returning to normality’ [15,16,20] and as a sign that everyday life has been restored [21]. Since work contributes to an individual’s life and is highly valued, it is important for professionals to support an individuals’ ability to participate in work.

Factors influencing work participation
Work participation with a chronic disease has been the subject of much research and multiple factors influencing the work retention (WR) or RTW of people with chronic diseases have been reported [22-25]. Many of these factors are not related to the specific diagnosis of the individual [26,27]. In addition, research shows that several of these factors, such as age, gender or motivation to RTW, influence work participation amongst people with different diagnoses, such as cancer and rheumatic diseases [9,11,23]. This indicates that there are factors that influence work participation, independent of the specific diagnosis.

Since factors are primarily researched within a sample of people with a specific diagnosis, insight into which factors influence work participation independent of diagnosis is lacking. An overview of these factors independent of diagnosis can provide insight into all factors that possibly have an influence, and can serve as a first step in exploring which specific factors influence individuals’ work participation.
Interventions to enhance work participation
After gaining awareness of factors that influence individuals’ work participation, interventions can be implemented to change the effect of negatively or positively influencing factors. Although some of the influencing factors are impossible to change, for example ‘older age’ or ‘female gender’, they may serve as a signal to target specific groups that need extra guidance by or attention from occupational health professionals (OHPs). However, other factors, such as ‘social support’, ‘recovery expectations’ and ‘motivation to RTW’, may be amenable to change.

Several studies have focussed on the effectiveness of occupational health interventions in populations with specific chronic diseases, for example interventions in individuals with low back pain [28], arthritis [29] or cancer [30]. These interventions often involve similar strategies or elements, either as a single intervention or as part of a programme, such as job accommodations, encouragement, education, empowerment or self-management strategies [28,29,30]. The similarity of these interventions or elements thereof for people with different diagnoses, implies that the use or effectiveness of an intervention does not depend on the specific diagnosis. This indicates that interventions can be used in a broader population that has different types of chronic diseases. However, as most research is conducted on interventions including people with a specific diagnosis, evidence on effective interventions applicable for a broader population is lacking.

Research shows that the longer sickness absence lasts, the less likely people are to RTW [31]. Professionals should therefore strive to implement the intervention as early as possible. Information on effective generic approaches can support professionals to consider interventions that can serve as a first step in the process of supporting work participation. In addition, a generic approach can also be deployed in specific diagnoses in which evidence of effective interventions is lacking.

Role of individuals with chronic diseases in their participation in work
In addition to the use of interventions deployed by professionals, we also researched the role that individuals have in their work participation. This approach is in line with the idea that people are expected to play an active role in their participation in work [32,33]. In the Netherlands, for example, a person on sick leave discusses a plan of action regarding returning to or
retaining work, together with the responsible OHP and the employer [34].

Exploring the perspectives of people with chronic diseases helps to provide a range of solutions and indicates the need for support to find and use these solutions. These results can provide OHPs with input on which solutions are available and might be beneficial for their clients to participate in work. These insights into solutions could also facilitate the involvement of people with a chronic disease, which can lead to individuals’ greater acceptance of and higher compliance with the guidance and assessment given by the OHP [35,36]. Based on the information concerning the need for support reported by individuals with chronic diseases, OHPs can adapt their guidance and assessment more closely to the needs of people with a chronic disease to support their participation in work.

**Supporting work participation of people with chronic diseases**

In the Netherlands, two types of OHPs are responsible for providing support and guidance to people with a chronic disease: occupational physicians (OPs) and insurance physicians (IPs). Both OPs and IPs focus on the issues regarding the disturbance of the balance between participation in work and the individual’s health. Obtaining insight into the individual’s functional abilities regarding participation in work is an essential part of their daily work [36,37]. OPs provide guidance to help individuals retain or return to work, in general up to a maximum period of two years of sick leave. Employees who are on sick leave for over two years can claim a disability benefit at the Dutch Social Security Institute: the Institute for Employee Benefits Scheme (UWV). For this claim, IPs assess and evaluate the extent and prognosis of work ability of the individuals. Thereafter, the degree of disability is determined based on the loss of income, by determining the worker’s original income and the income that he or she can theoretically earn doing work that fits with the remaining functional abilities.

Although OHPs are professionally educated and generally equipped to guide and evaluate people with a chronic disease to participate in work, research shows that they sometimes have questions regarding their approach of supporting people with a chronic disease, or they lack information that would enable them to provide optimal guidance to their clients [38]. Since research shows that providing OHPs with evidence and information improves the quality of the care they provide [39], the first part of this thesis focuses on
evidence concerning the work participation of people with chronic diseases. Evidence on factors, effective interventions and the role of people with chronic diseases in work participation is researched to facilitate OHPs in their guidance and assessment of people with a chronic disease.

Use of evidence by OHPs
Although evidence is available to facilitate OHPs in their guidance and assessment of people with chronic diseases, the evidence is scattered amongst various publications and is not easy for professionals to access. OHPs lack a clear and manageable overview on the evidence and what they can do in practice to optimise their guidance and assessment of people with a chronic disease. Therefore, the retrieved evidence was included in a guideline to facilitate a more standardised, evidence-based guidance and assessment of people with a chronic disease [40]. Based on the included evidence, recommendations were formulated to provide hands-on information on what OHPs can do to optimise the guidance and assessment of people with a chronic disease regarding participation in work.

The use of these recommendations can positively influence the quality of guidance provided by OHPs to their clients [41,42] and can support the work participation of individuals with a chronic disease [43-45]. However, previous studies show that the use of the recommendations by OHPs is generally low [46-48]. Health professionals indicate various barriers as the reason for this low usage, related to knowledge, attitude and behaviour [49-52]. Examples of these barriers are a lack of familiarity with the evidence [49-52], the evidence being too rigid to apply in individual situations [49], and a lack of motivation to use or a negative attitude towards using new information in practice [49-52]. In addition, external barriers are reported such as not having enough resources (time, money) to use the information [49-52], which limits the uptake of the evidence in practice.

In addition, previous research shows that simply disseminating relevant information to OHPs is not enough to ensure that they use it in their work [46-48]. OHPs need to actively change their behaviour towards using the evidence in their daily practice. Previous research shows that active interventions are effective to overcome barriers and to change OHPs’ behaviour in using the evidence included in the guideline [53,54]. In the second part of the thesis, the focus is therefore on the development and
evaluation of a training programme that focuses on facilitating the use of the evidence in practice, in order to optimise OHPs’ guidance and assessment of individuals with a chronic disease.

**Changing OHPs’ behaviour to increase the use of evidence**

In order to use the evidence in daily practice, a change in OHPs’ behaviour is needed. The ‘Behaviour Change Wheel’ developed by Michie et al. [55] provides an insight into how to achieve such a behaviour change (see Figure 1) and served as a guide for the steps taken in the present research. The model includes three levels, containing conditions, intervention functions and policy modalities (see Figure 1). Per level, one or more items that are most likely to be effective in changing the key behaviour can be selected [55].

As a first step, Michie et al. [55] state that ‘key behaviours’ should be determined, which are specified as ‘who should adapt their behaviour at what moment, in what manner and in which situation’. In this thesis, the focus is on facilitating OHPs to adapt their behaviour in using the content of the recommendations in their guidance and assessment of people with a chronic disease. In addition, the model states that key behaviours should be selected based on the impact the behaviour has, the likelihood that the selected behaviour will be implemented and whether there are other influencing factors to consider regarding the behaviour. Therefore, in this research, the recommendations were prioritised by OHPs on the current level of use and priority. The aim of this was to get an overview of which recommendations are key in the behaviour change.

After OHP’s selecting the key behaviours, Michie et al. [55] indicate that one should select which changes should be made to achieve the desired behaviour. According to Michie et al. [55], behaviour change requires the use of three conditions, namely capability, motivation and opportunity. Capability is the ‘psychological or physical ability to enact the behaviour’ (‘Do OHPs know how to use the guideline?’), motivation is the ‘reflective and automatic mechanisms that activate or inhibit behaviour’ (‘Do OHPs plan to use the guideline, do OHPs believe that the guideline benefit them and people with a chronic disease, do OHPs want to use the guideline, can OHPs develop a habit of using the guideline?’) and opportunity is the ‘physical and social environment that enables the behaviour’ (‘Do OHPs have the guideline and are they supported to use the guideline?’). In order to overcome barriers to
the use of evidence, such as a lack of or unfamiliarity with the evidence, or not knowing how to apply the evidence in practice [50-52], Michie et al. [55] indicate that at least one of three components (capability, motivation, opportunity) should be changed to obtain successful behaviour change. In this thesis, the focus is on the condition ‘capability’ (‘Do OHPs know how to use the guideline?’) in order for OHPs to use the recommendations in their guidance and assessment of people with a chronic disease.

This change can be made through the use of one or more of the nine ‘intervention functions’ [55]. These intervention functions include either one or more activities through which the behaviour (i.e. use of evidence) can be changed. The nine intervention functions are education, persuasion, incentivisation, coercion, training, enablement, modelling, environmental restructuring, and restrictions. Since this thesis concerned OHPs’ capability, we focused on the increase in OHPs’ knowledge and skills. As the Behavioural Change Wheel shows that knowledge can be provided through the intervention function ‘education’ and skills can be provided by the intervention function ‘training’ [55], we chose to focus on providing the interventions ‘education’ and ‘training’ to increase OHPs’ use of recommendations in practice.

After selecting one or more intervention functions, Michie et al. [55] reported several ‘policy modalities’ through which the intervention functions can be delivered to the population. Available policy modalities are: environmental/social planning, communication/marketing, legislation, service provision, regulation, fiscal measures, and guidelines. As the recommendations were part of a developed guideline, this thesis focuses on a guideline as a policy modality.
Thesis objectives and research questions

The following were the two main research objectives:

A. To obtain an overview on which factors and interventions influence the work participation of people with a chronic disease, independent of the specific diagnosis.

B. To evaluate how the use by OHPs of evidence included in a guideline can be facilitated in order to optimise the guidance and assessment of people with a chronic disease regarding work participation.

These objectives led to the following research questions:

1. Which factors affect the work participation of people with a chronic disease, independent of their diagnosis?
2. Which effective interventions can enhance the work participation of people with a chronic disease, independent of their diagnosis?
3. What role do people with a chronic disease have in improving their participation in work?

4. Can a training programme increase OHPs’ use of the guideline recommendations in their guidance and assessment of people with a chronic disease regarding their work participation?

**Thesis outline**

**Chapter 2** presents evidence on the factors associated with the work participation of people with chronic diseases gathered through a systematic review. This evidence provides the answer to research question 1. Because we wanted to gather evidence that is applicable to various chronic diseases, we labelled factors or interventions as ‘independent of diagnosis’ when they were found in two or more disease categories. For example, if ‘expectancy to RTW’ was associated with both rheumatic diseases and depression, we considered it to be independent of diagnosis.

To zoom in on the personal and work-related factors that influence the work participation of people with a chronic disease, we examined the values that people with a chronic disease attach to participating in work. We also explored what aspects of their work motivate or demotivate them. The answer to research question 1 is provided in **Chapter 3**.

**Chapter 4** focuses on which interventions are effective in enhancing the work participation of people with chronic diseases, independent of diagnosis. This information was obtained through the performance of a systematic review of systematic reviews, which provided an answer to research question 2.

**Chapter 5** presents the perspectives that people with a chronic disease are explored on the solutions they use in order to participate in work, and what support they need to find and implement these solutions to stay in or return to work. This chapter answers research question 3.
In **Chapter 6**, the focus is on the development of a training programme to facilitate the use of the knowledge and skills in daily practice. To develop the programme, OHPs’ training needs were explored. Thereafter, the perspectives that experts in the field of education have on relevant teaching methods were investigated. Chapter 6 provides the answer to research question 4.

**Chapter 7** focuses on the feasibility of the training programme and how it affects the knowledge and skills of OHPs regarding the use of the recommendations in their guidance of people with a chronic disease. This chapter answers research question 4.

In closing, **Chapter 8** presents a general discussion. Here, the main findings of the research are summarised and interpreted. Additionally, methodological considerations, implications for future research and recommendations for practice are discussed.
References


