Chapter 7

General discussion
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The objectives of this thesis were: (1) to identify aspects of work ability that are relevant for the assessment of work ability in patients with varying diseases after long-term sick leave, including Myocardial Infarction (MI), chronic Low Back Pain (cLBP) and Major Depressive Disorder (MDD) according to literature on return to work (RTW) and based on the opinion of Insurance Physicians (IPs) or patients; and (2) to test if the use of identified aspects will change variation in work ability assessment by IPs. The background of these objectives is that prepared disease-specific protocols\(^1,2,3,4\) meant to support IPs when they assess work ability for diseases, including MDD, cLBP and MI, do not describe criteria based on evidence or instruments on which work ability can be assessed.

To answer the objectives of this thesis, four research questions were formulated. This chapter begins with the results of the studies performed to answer the research questions. Thereafter the considerations are followed by the implications of the findings for work ability assessments of IPs. Finally, recommendations for future research and policy are given.

7.1 Main findings

The main findings regarding the following four research questions are presented in this section. The first research question was:

(1) What prognostic factors for work ability have been described in the literature for the three diseases in the Netherlands for which a disability pension is frequently granted: MI, cLBP and MDD?

A systematic search of the literature was performed to address this question and return to work was used as proxy for work ability. For MI, four studies were found that describe the following prognostic factors for faster return to work in the acute phase of the disease: lower age; male gender; no financial basis on which to retire; lower physical job demands; fewer somatic complaints; no anxiety attacks; no diabetes; no heart failure; no atrial fibrillation; no Q waves; and a short time interval between MI and presentation at the occupational medicine clinic. For cLBP, the following prognostic factors for return to work after three months of work disablement have been found in two independent studies and included the following: lower age; male gender; no treatment before sick listing; surgery in the first year of sick listing; being a breadwinner; less pain; better
general health; higher job satisfaction; lower physical and/or psychological demands at work; and a higher decision latitude at work. No relevant MDD studies could be identified during an exhaustive search of the literature.

The second research question was:

(2) According to IPs, what are the relevant aspects of work ability in the case of sick-listed employees with musculoskeletal diseases, psychiatric diseases with a specific emphasis regarding MDD, and other diseases?

In total, 60 Dutch IPs were interviewed to determine what aspects they take into account when assessing short-term and long-term work ability in long-term sick-listed employees. In the case of musculoskeletal diseases, the majority of IPs (75%) considered aspects of the ICF’s function and structures component to be important. However, with psychiatric and other diseases, aspects in the participation factor component were considered to be important by most IPs, 85% and 80%, respectively. Aspects relating to the environmental factor and personal factor components were mentioned as important by less than 25% of the IPs. In assessing the short-term and long-term prognosis of work ability, aspects of the disease or disorder component were primarily used by 75% or more of the IPs interviewed during the study.

An expert brainstorming session with 8 IPs and a 2-round Delphi study with 64 Dutch IPs identified the 10 most important aspects to take into account when assessing work ability of long-term sick-listed employees with MDD. These ten aspects are: to take notice; to sustain attention; to focus attention; to complete operations; to think in a goal-directed manner; to remember; to perform routine operations; to undertake structured work activities; to recall; and to perform autonomously.

The third research question was:

(3) According to sick-listed survivors of an acute coronary syndrome (ACS), what are the facilitating and hindering factors to return to work?

A retrospective, semi-structured, telephone survey 2-3 years after hospitalisation of patients revealed that 88% of the ACS patients (n=84) return to work once within 2 years after the event. However, 36% are not working 2 years after hospitalisation at their pre-ACS levels. ACS sub-diagnosis is relevant for the chance to return to work. For all ACS-patients, the most frequently mentioned facilitating factors for return to work were no-illness perception and not having signs or symptoms of heart disease. Physical incapacity, co-morbidity, mental incapacity, unfavourable terms of employment and
decreased motivation were top five hindering factors that were mentioned to return to work within three months. Twenty-four months after discharge of the hospital physical incapacity, co-morbidity, unfavourable terms of employment and the possibility to retire were frequently mentioned hindering factors to return to work at pre-ACS work hours.

The final research question that was studied was:

(4) Does variation in work ability assessment change when disease-specific aspects for work ability are used in the assessment of sick-listed patients with MDD?

In a post-test randomised experiment, the effect of using the MDD checklist for the ten aspects of work ability, to be taken into account when assessing work ability of five real case history vignettes of MDD employees, was investigated. This was determined by a group of 25 IPs that did not use the checklist and a group of 21 IPs that used the checklist. Work ability was assessed to be higher for all vignettes in the group of IPs that used the checklist. However, no difference in variation of work ability assessments was found between both groups of IPs. Irrespective of the use of the checklist, the reproducibility between raters was moderate (ICC: 0.64) for assessing the work ability in MDD cases.

7.2 Considerations

The scientific basis of insurance medicine is just beginning to develop. In recently prepared disease specific protocols instruments or scientific evidence on which work ability assessments could be based were to a great extent missing. This thesis is the first thesis to develop knowledge of disease-specific and non-disease-specific aspects to be taken into account when assessing work ability in the social insurance context. In work ability assessments IPs gather information that can be categorized according to one of the six components of the ICF model. To assess work ability IPs have to appraise the relevant aspects of work ability to assess work ability in a medico-legal context. Some choices made in this thesis to identify relevant aspects of work ability have to be discussed.

The ICF model

Protocols for IPs recommend assessing work ability of long-term sick-listed employees according to the ICF model for all diseases. The ICF model is used in the introduction and in Chapter 2, 3, 4 and 5 to categorise relevant aspects of work ability. The ICF model is a classification that can describe problems in participation in patients with a condition or
in a defined context⁶. This is a conceptual model; therefore, finding aspects of work ability that can be categorized in one of its components does not mean that those aspects are prognostic for participation in work. Future studies should test whether these aspects are actually prognostic for work ability. Although the ICF model does not predict work ability, it is of use for IPs when assessing work ability in long-term sick-listed employees. This is because the model encompasses all aspects of participation and considering it will stimulate the assessor to remember aspects that might be relevant. The result may also be that the variation in assessments is reduced.

**Evidence**

Evidence should be gathered because the scientific basis of work ability assessments is mainly based on expert opinions. At the moment no specific guidelines for work ability assessment are given in protocols for IPs⁷,⁸,⁹. Therefore, this thesis used methodologies like reviews of the literature and interviews with IPs and patients to collect the minimal existing evidence. This evidence was used to describe the opinions of IPs and patients on a group level. In Chapter 6 an intervention study was performed to test the effect of an instrument used to be helpful between assessors on work ability assessment. Based on the present knowledge, in the near future, more studies examining the effect of protocols on work ability assessment should be performed. Because the assessment of work ability implies the exchangeability of IPs⁷ the core issue of work ability assessment should be that the quality of the rating for work ability assessment must be in agreement between IPs, regardless of the IP involved.

**Other perspectives than the perspective of IPs**

Durable work ability was assessed in an interview with IPs and clients. Investigating the perspectives of IPs and clients does not mean that the aspects of other persons involved, such as employers, supervisors, labour experts, medical specialists, or general practitioners, are of no interest⁸,⁹. Therefore, the identified aspects of work ability from the interview study (Chapter 3) and the Delphi study (Chapter 5) are just a beginning. For this reasons this may have created a limited set of aspects related to work ability. For instance, Chapter 3 showed that IPs hardly address personal and environmental factors. In addition, studies on disability pensioners¹⁰,¹¹ and studies on return to work programs¹²,¹³ address environmental and personal factors when return to work is to be achieved. Therefore, other stakeholders concerned with the work ability of the client can likely expand the set of aspects of work ability as detailed in Chapter 5.
The medico-legal context of work ability assessment

Another point to be discussed is that IPs perform work ability assessments in a medico-legal context. The law is broadly formulated and is narrowed by jurisprudence to a certain extent. The law says that a disease can lead to disability pensions. Jurisprudence dictates that personal (i.e. like children to take care of) and environmental factors (i.e. to live too far from the company) cannot be arguments to grant disability pensions. Chapters 3 and 5 show that IPs follow the law and the jurisprudence by relatively neglecting environmental and personal factors. For this reasons, they may not have answered the questions in a medical perspective in which health is to be conceptualised according to the ICF model. Considering personal and environmental factors when assessing work ability is a medical necessity. In addition it also makes more transparent on which medical criteria the pension is granted and which other aspects are relevant, but no reason for granting a disability pension.

Return to work versus work ability

In Chapter 2 prognostic factors for return to work (RTW) are used to identify aspects of work ability in patients with MI, cLBP and MDD. RTW is therefore used as proxy for work ability. However, RTW is not the same as work ability. Work ability concerns the physical and mental capacity of a person. A prerequisite for RTW is that the work ability of a person at least equals the work demands. That is work should not exceed human capacities to meet such demands without causing work-related health problems, when the demands are met on a daily basis for approximately five working days a week over a period, according to the legal context of at least three months. Therefore, RTW issues encompass more than simply the physical and mental capacities of a person. For instance, we have learned from Chapter 2 that a client’s financial base to retire and the time that has passed before a client visits an occupational health clinic can be prognostic factors for RTW. These factors are of use for occupational health physicians when RTW is to be achieved. The previously mentioned prognostic factors should, however, not be taken into account when work ability is assessed because they do not define the work environment in which the human capacity meets work demands. On the other hand, prognostic factors such as support and decision latitude must be taken into account when work ability is assessed because they do define the work environment in which the human capacity meets work demands.
7.3 Implications for IPs

The assessment of work ability is one of the duties for IPs. In addition, they also have to assess the social medical history, the prognosis of the work ability, and the possibility for further treatment and/or support of the long-term sick-listed employee. To complete these tasks, information is gathered and interpreted in the light of the employee's particular disease. This thesis produces relevant insights that can support IPs with the following tasks.

1. In assessing the social medical history, useful prognostic factors for return to work for MI clients include the following: lower age; male gender; no financial basis on which to retire; lower physical job demands; fewer somatic complaints; no anxiety attacks; no diabetes; no heart failure; no atrial fibrillation; no Q waves; and a short time interval between MI and presentation at the occupational medicine clinic. For cLBP clients, factors for RTW include the following: lower age; male gender; no treatment before sick listing; surgery in the first year of sick listing; being a breadwinner; less pain; better general health; higher job satisfaction; lower physical and/or psychological demands at work; and a higher decision latitude at work. The identified aspects can be used as yellow flags and make the IP question why return to work has not been achieved.

2. IPs can already apply the experimental checklist of aspects of work ability from Chapter 5 for work ability assessments of long-term sick-listed MDD clients. As shown in Chapter 2, there are no known prognostic factors for work ability for these clients described in the literature. As shown in Chapter 5 IPs share relevant aspects of work ability for MDD. Therefore, the aspects presented in Chapter 5 are the best evidence for assessing work ability for MDD clients. Applying those aspects when assessing work ability, however, does not diminish variation between IPs, but results in higher work ability assessments, as presented in Chapter 6. Caution should therefore be taken when using the list to assess work ability. The checklist should not be solely used to assess work ability. Additional sources of information, such as the opinions of other professionals concerned with the work ability of clients, must also be considered.

3. When disease-specific prognostic factors are used to assess work ability, Chapter 5 shows that early phase factors of Chapter 2 may not be the same as factors hindering return to work two years after the employee were sick-listed. In addition, factors can be phase specific. Therefore considering prognostic
factors when assessing work ability implies that factors should be at stake at the
time of the assessment of work ability.

4. Work ability is assessed during an interview between an IP and a client. Commu-
nication is facilitated with the awareness of what is important in the interview. The ICF model offers a framework for the interview to assess work ability. In this study it appeared that IPs were not inclined to use environmental and personal factors when assessing work ability, while from the perspective of the clients, these factors may be important. Furthermore, patients neglect activities and par-
ticipation factors. During work ability assessment, IPs should pay extra attention
to environmental and personal factors and should try to stimulate clients to
express reasons for why they are not returning to work in terms of both activity
and participation.

5. Chapter 6 shows that there is a wide variation in work ability assessments of the
same case histories. As professionals, IPs must assess work ability of the same
client in the same way. Education and training to accomplish this consistency is
needed and recommended.

### 7.4 Recommendations for future research

This thesis identified aspects of work ability. However, further development of
instruments based on the aspects and implementation of these instruments is still
needed. Therefore, the following specific recommendations for future research have
been formulated: Further development of the MDD checklist and starting development
of checklists based on prognostic factors for return to work for MI and cLBP clients,
decision analysis and implementation in practice. How should the MDD checklists be
expanded according to clients and other professionals concerned with work ability?
What is the priority of the items in relation to work ability? How can the MDD checklist
be effectively implemented in the daily practice of IPs? What is the quality improvement
in the outcome of work ability assessment of a specific implementation?
7.5 Recommendations for policymakers

1. Illustrative case histories to help IPs with their assessment tasks\textsuperscript{20} are already developed. Illustrative case histories must be developed in which the MDD checklist, with aspects of work ability, and prognostic factors for return to work for MI and cLBP are demonstrated.

2. To improve the agreement among IPs in work ability assessments, the employer of IPs should facilitate the evaluation of assessments of work ability by organising continuous peers feedback systems.

3. IPs are registered and re-registered once every five years as medical specialist. To be (re-) registered IPs have to follow accredited education and training. It should be stimulated that IPs who assess work ability receive accredited education or training on work ability assessment.
References

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