Return-to-work in sick-listed employees with major depressive disorder
Hees, H.L.

Citation for published version (APA):

General rights
It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

Disclaimer/Complaints regulations
If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: http://uba.uva.nl/en/contact, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

Download date: 07 Dec 2018
CHAPTER 7

General Discussion
The present thesis aimed to improve our understanding of return-to-work in sick-listed patients with MDD. In this chapter, the main findings per research question will be presented first. Next, the results in this thesis will be discussed in order to improve our understanding of the effectiveness of the adjuvant occupational therapy module (adjuvant OT). Finally, methodological considerations and implications for future research and clinical practice will be discussed.

**MAIN FINDINGS**

**Question 1.** Is adjuvant occupational therapy more effective than standard clinical treatment for improving adverse work outcomes, depressive symptoms, and health-related quality of life?

A total of 117 employees sick-listed for a median duration of 4.8 months (IQR = 2.6 - 10.1 months) because of MDD were randomised to treatment-as-usual (TAU; n = 39) or TAU plus adjuvant occupational therapy (TAU + OT; n = 78). OT consisted of 18 sessions (9 individual sessions, 8 group sessions and a meeting with the employer) and focused on a fast return-to-work and improving work-related coping and self-efficacy. TAU comprised of clinical treatment in an academic and highly specialized department for mood disorders. Work participation (primary outcome, defined as hours of absenteeism and time until partial/full return-to-work), depressive symptoms, at-work functioning, health-related quality of life, and intermediate outcomes (work-related coping and self-efficacy) were evaluated during baseline, and 6, 12, and 18 month follow-up.

Analyses revealed no significant benefit of adjuvant OT for improving overall work participation when compared to TAU only (Adjusted group difference = -1.9, 95% confidence interval = -19.9 to +16.2). However, adjuvant OT did increase long-term depression recovery (MDD remission: +18%, 95% CI = +7% to +30%) and long-term return-to-work in good health (+24%, 95% CI = +12% to +36%). Participants who had returned to work in good health (RTW-GH) had not only fully returned to work, but were also remitted from their MDD and had better work- and role functioning than those who had fully returned to work, but not in good health. There were no significant group differences regarding the remaining secondary/intermediate outcomes.

**Question 2.** What are predictors of long-term return-to-work in sick-listed employees with MDD, and how do these predictors compare to predictors for long-term symptom remission?

Potential predictors were identified from the previous mental health literature and categorized into four domains: clinical characteristics, socio-demographic characteristics, personality characteristics, and work-related characteristics. Long-term full return-to-work (i.e., working the full number of contract hours in own or other work for at least four weeks) and long-term symptom remission (≤ 7 on the Hamilton Rating Scale for Depression) were examined during the 18-month follow-up. Stepwise logistic regression analyses with backward elimination (p ≤ 0.05) resulted in a final prediction model, showing that a lower level of depression severity (OR = 0.92), absence of a co-morbid anxiety disorder (OR = 0.21), higher conscientiousness (OR = 1.10), and higher work motivation (OR = 1.87) at baseline predicted long-term RTW. Long-term symptom remission was only predicted by a lower level of baseline depression severity (OR = 0.93). These results suggest that sick-listed MDD patients with a more favourable RTW-prognosis are those with low depression severity, absence of a co-morbid anxiety disorder, high work motivation, and high conscientiousness.

**Question 3.** What is the longitudinal relationship between depressive symptoms and various work outcomes in sick-listed employees with MDD?

Next, we aimed to examine the temporal and directional relationship between depressive symptoms and various work outcomes (absenteeism, work productivity and work limitations) in this highly impaired population of sick-listed employees with MDD. We found that within-subject changes in depressive symptoms were significantly related to within-subject changes in all work outcomes (all scales: p < 0.001). We also found that an earlier reduction in depressive symptoms predicted later improvements in all work outcomes (all scales: p < 0.05). Third, we found that earlier improvement in Time Management (p = 0.007) and Mental/Interpersonal (p < 0.001) work limitations predicted subsequent reduction in depressive symptoms. These results suggest that symptom reduction remains crucial in order to improve adverse work outcomes in MDD patients with a long duration of sickness absence. Nevertheless, a treatment focus on qualitative functioning in the
workplace (acquisition of time management strategies, enhancement of cognitive and social functioning at the workplace) may accelerate depression recovery in these patients.

**Question 4.** How do different key stakeholders (i.e., employees, supervisors, occupational physicians) involved in the return-to-work process define a ‘successful’ return-to-work after sickness-absence related to MDD and other common mental disorders?

In order to examine the various stakeholder perspectives, a mixed-methods study was conducted: First, qualitative methods (focus groups, interviews) were used in order to identify a broad range of criteria important for defining successful RTW \( n = 57 \). These criteria were grouped into content-related clusters. Second, a quantitative approach (online questionnaire) was used in order to identify, among a larger stakeholder sample \( n = 176 \), the clusters and criteria most important for successful RTW.

A total of 11 clusters, consisting of 52 unique criteria, were identified. In defining successful RTW, supervisors and occupational physicians regarded ‘Sustainability’ and ‘At-work functioning’ most important, while employees regarded ‘Sustainability’, ‘Job satisfaction’, ‘Work-home balance’, and ‘Mental Functioning’ most important. Despite agreement on the importance of specific criteria within each cluster, considerable differences among stakeholders were also observed. From these findings, it was concluded that key stakeholders vary in the aspects they regard as important when defining successful RTW after CMD-related sickness absence. In addition, these findings suggest that current definitions of RTW outcomes in scientific research do not accurately reflect the perspectives of key stakeholders involved in the RTW process. Later on in this Discussion (p.158), the implications of these findings for the interpretation of the effectiveness of adjuvant OT and other interventions in the work disability field will be discussed.

**EFFECTIVENESS OF ADJUVANT OT**

**Study sample**

When evaluating the effectiveness of adjuvant OT (Chapter 3), findings should be interpreted in light of the severity of the study population. At baseline, the median duration of patients’ major depressive episode (MDE) already was 8 months (IQR: 4.0-13.0 months). This is considerably longer than the median duration of MDE’s in both the general population (3.0-4.0 months)\(^1\), 2\) and specialized mental health care settings (6.0 months)\(^3, 4\). While the majority of patients with MDD (63%) recover within 6 months\(^2\), the probability of recovery from MDD declines with increasing episode duration.\(^4, 7\) In addition, a high proportion of participants (58%) had severe MDD, 53% had experienced previous depressive episodes, and 26% had one or more co-morbid disorders. Previous studies found that these clinical characteristics are strongly related to prognosis.\(^4-7\) Finally, the majority of participants (52%) had received earlier treatment for their current MDE episode (i.e., psychological interventions and antidepressant medication). Previous findings suggest that patients who received (unsuccessful) earlier treatments for their present MDE, have less chances of a favourable treatment outcome when starting new treatment.\(^8, 9\)

In light of this severity, the added benefit of adjuvant OT on MDD recovery is noteworthy. During the 18-month study period, adjuvant OT increased the total percentage of remission with 18% (adjusted for covariates, 95% CI = +7% to +30%) and led to higher rates of sustainable remission (92% instead of 69%).

In addition, at baseline, the current study population already had a long duration of sickness absence (median: 4.8 months, IQR = 2.6 - 10.1 months). Furthermore, a high proportion of the study population (67% in TAU + OT; 56% in TAU) was already absent from work for more than three months at baseline. Recent study findings indicate that the probability of full RTW sharply decreases after 3 months of MDD-related sickness absence.\(^10\)

**Comparison with previous studies**

This highly impaired study population is vastly different from previous studies that examined the effectiveness of RTW interventions in sick-listed employees with depression (see Table 1). These studies often included non-psychiatric, primary care patients\(^11-14\) for whom diagnosis was frequently based on a cut-off score at a self-report questionnaire\(^11,13,15\) instead of meeting the criteria for a DSM-IV-diagnosis of MDD. Furthermore, the majority of studies included participants with only a few weeks of baseline sickness absence.\(^12,14,16,17\) Considering that both diagnosis/severity of MDD and the duration of sickness absence
These changes in the Dutch context make adjuvant OTs’ emphasis on an early RTW less unique for the intervention, and are therefore likely to have reduced the contrast in work participation between the control (TAU) and experimental (TAU + TAU+OT) condition. Indeed, overall, the population in this study returned to work much faster than the population in our previous study (for TAU + OT: mean of 149 days instead of 207 days; for TAU: mean of 213 days instead of 299 days). Epidemiological findings support this explanation, indicating that the incidence of long-term sickness absence related to mental health complaints in the Netherlands has considerably decreased in recent years. However, as the current study population (Chapter 3) included patients with a wide range of baseline sickness absence duration, this may have also diluted a potential effect for those with shorter durations of sickness absence (see also p. 157 of this Discussion).

POTENTIAL WORKING MECHANISMS OF ADJUVANT OT

The beneficial effects of adjuvant OT for (sustainable) depression recovery and return-to-work in good health did not seem to occur through the working or therapeutic mechanisms (i.e., coping and self-efficacy) as initially hypothesized (Chapter 2 and 3). It is crucial to gain more insight into these mechanisms, as this may provide suggestions for future RTW interventions. Below, several hypotheses regarding the potential working mechanisms are put forward:

First, patients may still have acquired new coping strategies during adjuvant OT, but this construct was not properly measured by the Utrecht Coping List (UCL) used in this study. An observation that supports this explanation is that during qualitative follow-up interviews, patients frequently reported that one of the primary benefits of adjuvant OT is that they learned to more effectively cope with difficult work situations. Although the UCL is a validated and widely used instrument, it is not specifically developed for measuring coping with the RTW-process. This may have influenced the validity of our results. Indeed, secondary analyses on our dataset (not in this thesis) revealed that changes in UCL scales were not predictive of changes in work and/or depression outcomes. Another potential explanation may be that the UCL is developed to measure behavioural coping, whereas workers who received adjuvant OT may have learned other ways of coping with work demands, such as learning a new way of thinking (“cognitive coping”, e.g., not interpreting a failure at work automatically as a personal failure).
Second, as OT was added to treatment-as-usual, one may initially think that a higher "total dose of treatment" may explain the additional benefit of adjuvant OT. However, contrary to this hypothesis, we found no additional effect on depression recovery for the previous OT, despite the fact that this previous OT consisted of twice as many sessions (36 sessions) as the current OT (18 sessions). Furthermore, we found that the current OT led to fewer sessions with a psychiatrist, reducing the total dose of treatment. Thus, although the beneficial effect of the current OT is not likely to be explained by a higher number of treatment sessions, it may still be the case that adjuvant OT optimized clinical treatment: For example, when asked about effective components of adjuvant OT during qualitative interviews, patients frequently reported general therapeutic group principles (e.g. vicarious learning, recognition/instillation of hope, social support).

Although we found that earlier improvements in time management and cognitive/interpersonal functioning improved later depression recovery (Chapter 5), no additional benefit of adjuvant OT was found for these scales when compared to treatment-as-usual (Chapter 3). Thus, the additional benefit of adjuvant OT could not be explained by an increased focus on time management and cognitive/interpersonal functioning in the workplace. However, adjuvant OT could still have improved depression recovery by improving the quality of work circumstances. For example, supervisor support may have been improved through increased communication about the patients’ needs during the workplace visit. In addition, during this workplace visit, the OT therapist provides psycho-education to supervisors about the adverse consequences of MDD for work outcomes, which may have further improved supervisor support. Previous studies show that supervisors’ lack of understanding of MDD-related consequences for work outcomes is one of the most common reasons given by supervisors as to why they provide inadequate support during the RTW process. Finally, adjuvant OT may have prevented symptom relapse by helping workers not to exceed their current (decreased) work capacity.

**TIMING OF ADJUVANT OT**

Findings in the present thesis suggest that the optimal timing for adjuvant OT may depend on the motivational state and disability phase of the individual:

**Work motivation**

First, work motivation was only predictive for long-term RTW in patients receiving treatment-as-usual, and not for patients receiving adjuvant OT (Chapter 4). This finding suggests that adjuvant OT mitigates the negative/detrimental effects of low work motivation, and may therefore be particularly appropriate for those with low work motivation. This finding is consistent with the Readiness for Return-to-Work (RRTW) model, which states that RTW interventions should be matched with the motivational stage of the individual. According to this model, the sick-listed worker progresses through various motivational stages, shifting from the intention not to engage in RTW in the near future, to the intention to engage in RTW in a sustainable fashion. As those in earlier motivational stages (i.e., low motivation) are characterized by their ambivalence or lack of intentions to RTW, interventions in these employees should first target their cognitions regarding the RTW, instead of directly aiming to achieve behavioural change. Thus, from the RRTW model, it could be hypothesized that while adjuvant OT may be adequate for changing ambivalent cognitions regarding RTW, adjuvant OT may be less needed for those who already have high work motivation (i.e., those in later motivational stages). As highly motivated workers may have already set their goals regarding RTW, these workers may need other interventions, for example, a stronger emphasis on how to productively stay at work and strategies to prevent recurrence.

**Duration of sickness absence**

In addition, exploratory analyses suggested that adjuvant OT may provide additional benefit with regards to work participation for a subgroup of participants, namely those who were absent from work for less than 3 months at baseline (Chapter 3). Interestingly, these findings are consistent with the phase specific model for occupational disability that was originally developed for low back pain. According to this model, the effectiveness of interventions depends on the duration of sickness absence, and the sub-acute disability phase (sickness absence duration between 4 weeks and < 3 months) is found to be the most optimal timing for starting multidisciplinary interventions that are focused on a return-to-work. Possibly, a comparable ‘window of opportunity’ exists for sick-listed workers with MDD. Although these exploratory findings need to be replicated in...
The findings in Chapter 6 raise an important implication for the work disability field. That is, when designing future intervention studies, it needs to be acknowledged that each stakeholder in the RTW process has its own perspective of what constitutes successful RTW. Consequently, more attention needs to be addressed to the perspective from which RTW outcomes are evaluated: For whom do we aim to evaluate the effectiveness of RTW interventions? This is especially important considering that based on current definitions of RTW success, it is decided whether a certain intervention is effective, and consequently, whether this intervention is implemented by employers and/or funded by health insurers.

However, considering the heterogeneity in perspectives not only between stakeholder groups, but also within stakeholder groups (Chapter 6), there may be no “one-size-fits all” measure of treatment success. This heterogeneity within stakeholder groups is probably related to the wide variation in variables (e.g., job content, job sector, department, company size, organizational culture) that impact stakeholders’ decisions regarding the most important criteria for an individual’s RTW success, and therefore can, to our expectation, not totally be eliminated. Nevertheless, there are several reasons to at least improve current definitions of RTW success, including not only a measure of whether a worker is back at work, but also looking at the sustainability, at-work functioning, and job satisfaction:

First, traditional measures of RTW success may not adequately describe the duration of MDD-related adverse work outcomes. Although some studies have included a sustainability criterion for defining RTW success (i.e., full RTW for 28 days), the majority of stakeholders regarded a much longer period needed (at least 7 months) in order to evaluate a RTW as successful. Interestingly, this sustainability criterion is more consistent with epidemiological evidence showing that common mental disorders usually involve recurrent conditions and the median time-to-recurrence of MDD-related sickness absence is 11-12 months. Thus, future studies should aim to include a longer sustainability criterion which more accurately reflects these key stakeholder perspectives. In addition, if future studies aim to take into account the employee’s perspective, it may be important to include a subjective sustainability criterion (i.e., the employee feels that he/she is not bordering on relapse).

Future studies, they are corroborated by previous studies indicating that the probability of RTW sharply decreases after 3 months of MDD-related sickness absence. However, to what extent this differential effectiveness may exist because the > 3 months subgroup represents a more “severe” clinical population, and/or because in this subgroup, more psychosocial factors are at play, should be explored in future studies. Nevertheless, these findings corroborate the importance of early referral to adjuvant OT.

**DEFINITION OF A “SUCCESSFUL” RETURN-TO-WORK?**

When evaluating the effectiveness of adjuvant OT, one should take into account the perspective from which this effectiveness is evaluated. Consistent with previous studies, our primary outcome (i.e., definition of “successful RTW”) was defined in terms of number of hours worked (i.e., the total number of hours worked, and the duration until working the full number of contract hours for 28 days). However, results in Chapter 6 indicate that this definition is not an accurate marker of success from the perspectives of the key stakeholders involved in the RTW process (i.e., employees, supervisors, occupational physicians). Not only did key stakeholders regard these criteria least important for defining RTW success, the current definition also lacked aspects regarded most important by key stakeholders, such as at-work functioning (from the supervisors’ and OPs’ perspectives), job satisfaction, mental functioning, and work-home balance (from the employees’ perspective).

In this light, the finding that adjuvant OT increased the probability of “return-to-work in good health” (RTW-GH; Chapter 3) may more closely reflect key stakeholders’ definition of RTW success: Workers who achieved RTW-GH were not only fully returned to work, but were also remitted from their MDD and had better work- and role functioning than those who had fully returned to work but not in good health. Thus, the RTW-GH measure seems to capture more aspects regarded as important by key stakeholders in the RTW process (i.e., “mental functioning” and “at-work functioning”). Nevertheless, the RTW-GH measure may still be insufficient to fully reflect the various key stakeholder perspectives, as this measure did not include a sufficient time period (four weeks instead of at least 7 months) for determining whether a sustainable RTW has been achieved, and no measures of “job satisfaction” or “work-home balance” were included.
CHAPTER 7 General Discussion

Second, as at-work productivity is regarded an important factor for RTW success according to supervisors and OP’s, and reductions in at-work functioning have been consistently identified as accounting for the majority of economic costs due to MDD related productivity loss.\textsuperscript{37} future definitions of RTW success should incorporate measures of at-work functioning. According to all three stakeholder groups, the specific criteria most important for measuring adequate work functioning is whether the employee’s energy and concentration level is sufficient for fulfilling the work requirements (agreement across all three stakeholder groups was 49%-71%).

Third, as previous studies show that job satisfaction is closely associated to positive work conditions and health benefits derived from work,\textsuperscript{38,39} and low job satisfaction can in turn negatively impact work outcomes (i.e., lower productivity and higher absenteeism),\textsuperscript{40,41} it may be important to include a measure of job satisfaction in future definitions of RTW success. Nevertheless, the exact operationalization of job satisfaction may depend on the specific stakeholder perspective: Whereas for employees and OP’s, it was important that the employee again had the feeling that he/she is participating in society, supervisors regarded it most important that the employee is motivated at work.

Finally, even when researchers aim to include more “objective criteria,” such as the number of hours worked, job function, or job content, measuring the consensus between employer and employee regarding the achieved work situation may be most important for reflecting the key stakeholder perspectives (Chapter 6). This finding is consistent with previous studies that stakeholders regarded the “fit” between the employee and his/her work environment most important for sustainable RTW and adequate work functioning.\textsuperscript{42} In this light, measuring the extent to which a certain RTW outcome is satisfactory for both the supervisor and employee may be most reflective of successful RTW. These findings highlight the importance of identifying shared goals of RTW programs.

**METHODOLOGICAL CONSIDERATIONS**

**Randomized controlled trial**

For evaluating the effectiveness of adjuvant OT (Chapter 2 and 3), a randomized controlled trial (RCT) was used, which is considered the gold standard for evaluating the effectiveness of an intervention. In addition, the study was based on intention-to-treat analysis and was conducted in a real-life situation, improving the ecological validity of the study findings. Furthermore, we included a long follow-up period (18 months) and a wide variety of measures on the clinical, personal, and work-related level. Finally, we used advanced statistical modelling, and the use of multiple imputation prevented selection bias due to differential loss to follow-up.

However, a limitation of the design of the RCT (Chapter 2) is that only a few process measures were included: Although we did record total healthcare and medication use, including the total number of OT sessions received, data to monitor treatment integrity of OT was limited. Consequently, no formal evaluation could be made regarding the extent to which OT therapists adhered to the treatment protocol (e.g., how many patients actually received the workplace visit? Was the quality of work model discussed in each group session?). However, from therapy files, we do know that 63 patients (81%) randomized to adjuvant OT actually received an occupational anamnesis and made a personalized RTW plan (this is 95% of all patients who completed adjuvant OT). These are indications of at least moderate treatment integrity. Furthermore, all occupational therapists were well-trained and already had substantial experience with the treatment protocol. However, the ability to formally examine whether adjuvant OT was more effective for those with higher protocol adherence is limited. Therefore, no conclusive evidence could be obtained regarding the extent to which the lack of overall effect of adjuvant OT on work participation was due to theory failure (i.e., was the intervention based on inadequate theory?) or program failure (i.e., was the intervention not adequately implemented?). In future studies, more attention should be addressed to the incorporation of such process measures.

**Variation in baseline duration of MDD and baseline duration of sickness absence**

As discussed earlier, the wide variation in baseline duration of MDD and sickness absence may have diluted a potential effect of adjuvant OT in those with a shorter duration of impairments (Chapter 3). In addition, due to this variation, we needed to include these
variables as covariates in our analyses, and could therefore not examine whether the baseline duration of MDD and sickness absence were predictive of long-term RTW and long-term symptom remission in the current study sample (Chapter 4). Previous evidence, however, indicates that these variables are important predictors for the duration of sick-leave in patients with MDD. Furthermore, this wide variation may have obscured the identification of predictors of long-term RTW, as previous research suggests that certain predictors may vary according to the duration of sickness absence. Therefore, future studies should include a (prospective) inception cohort.

Restoration of at-work functioning
Participants in both treatment groups improved in their at-work functioning during the 18-month study period (Chapter 3). However, with the present data, we were not able to examine if (and how many) patients reached unimpaired levels of work functioning, due to the lack of norm data for the general Dutch population. Furthermore, although we found that improvements in depressive symptoms were related to improved work outcomes (Chapter 5), we were not able to establish to what extent work functioning returned to unimpaired or good levels when patients become asymptomatic. This is not only because of the lack of norm data, but also because we could only retrospectively assess pre-morbid work functioning.

In addition, as all measures of work functioning were based on self-report, we could not exclude the possibility that these measures may have been confounded by the severity of depressive symptoms. On the other hand, the Work Limitations Questionnaire (WLQ) used in this thesis has been specifically developed for a depressed population, and findings in Chapter 5 indicated a differential course of depressive symptoms and work functioning. This at least corroborates the assumption that responses on the WLQ provide some indication of at-work functioning (other than being solely a reflection of depression severity).

Generalizability of study findings
The generalizability of our study findings depends on the study population, setting, and legislative context in which the present studies were conducted.

Study population
The present sample (Chapter 3, 4 and 5) mainly included white-collar workers from the financial and healthcare sector. Although not necessarily representative for the general population of sick-listed workers with MDD, these sectors do have the highest prevalence of sickness absence related to common mental disorders. Furthermore, as stated earlier, the findings in this thesis may only apply to sick-listed employees with a clinical diagnosis of MDD, and who already have a longer duration of MDD and sickness absence. However, the current study sample was representative of this population: Of the 224 patients recruited, only 18 eligible participants (8%) refused to participate in our study.

Although the sample for Chapter 6 consisted of a different study population, the definition of successful RTW is probably less dependent on the type and/or severity of the disease than factors that facilitate or hinder the RTW process. Indeed, analyses revealed no substantial differences in study results for patients with different diagnoses (Chapter 6). Furthermore, this assumption is corroborated by a recent Canadian study, which identified similar themes for defining successful RTW (i.e., worker well-being, worker job function, worker job satisfaction, and the worker’s ability to function at home while having returned to work), despite differences in disease category (injury vs. common mental health disorder) and legislative context (Canada vs. Netherlands).

Quality of treatment/care setting
Treatment-as-usual consisted of high quality, evidence-based clinical treatment conducted by medical professionals in a highly specialized department for Mood Disorders. Consequently, even in the control group, high (sustainable) remission rates were achieved. This may have reduced the contrast between the experimental and control condition, and it is therefore possible that the effectiveness of adjuvant OT may be higher when implemented in other settings with a lower quality of treatment-as-usual.

Dutch context
The studies in this thesis were all conducted in the Netherlands, which has unique disability legislation that is likely to have affected the results in this thesis. As discussed before, the
CHAPTER 7

General Discussion

3). Improve our understanding of underlying mechanisms

Future studies should aim to improve our understanding of the underlying mechanisms of RTW interventions, and adjuvant OT in particular. For this purpose, future research should develop a specific instrument for measuring RTW-related coping, in order to further clarify the role of coping for achieving RTW. Finally, future studies may need to include specific instruments to measure cognitive coping, such as the Cognitive Emotion Regulation Questionnaire (CERQ).

4). Towards personalized medicine of RTW interventions

Findings in the present thesis (Chapter 4) provide support for the notion that RTW interventions should be matched with, or tailored to the motivational stage of the individual. In addition, exploratory findings (Chapter 3) suggest that adjuvant OT may be most effective for those with < 3 months of sickness absence. Although these preliminary results need to be confirmed in future studies, they emphasize the importance of moving beyond the evaluation of average effectiveness of RTW interventions, towards the identification of the best treatment option for a certain individual. This is in line with the growing interest in personalized medicine, which aims to optimize treatment outcome by improving the match between characteristics of a certain individual and his/her treatment received. In addition, future studies could explore potential combinations of characteristics that predict treatment outcome, such as patients with both low work motivation and short-term sickness absence.

5). Evaluate the cost-effectiveness of adjuvant OT

Finally, the cost-effectiveness of adjuvant OT should be examined. Although the societal perspective is generally considered most important for establishing cost-effectiveness, it may also be interesting to evaluate cost-effectiveness from different perspectives (e.g., the perspective of health insurance companies or employers), considering the differing perspectives on what constitutes successful treatment outcome. We are planning to conduct such a cost-effectiveness study in the near future.

RECOMMENDATIONS FOR FUTURE RESEARCH

1). Reconceptualize the primary outcome measure in RTW studies

Future studies should identify and make explicit the perspective from which they aim to evaluate the effectiveness of RTW interventions. It is crucial to define this perspective, as different perspectives may lead to different goals (e.g., reduce economic costs, improve mental functioning), and consequently, different ways to operationalize the primary outcome of a RTW intervention. If researchers aim to reflect varying stakeholder perspectives, it is recommended that researchers include a broader definition of RTW success, which captures several aspects important to the different stakeholders involved (e.g., sustainability, at-work functioning, job satisfaction). Finally, considering that successful RTW may not necessarily be disease-specific, our findings could also be useful for defining successful RTW after common physical conditions, such as low back pain. However, future studies should examine to what extent our findings are generalizable to other health conditions.

2). Identify true determinants of long-term RTW

Although the predictor study (Chapter 4) enabled the identification of several ‘risk’ factors (predictors) for a favourable RTW prognosis in sick-listed MDD patients, no conclusive evidence could be obtained regarding the value of these variables as ‘causal’ determinants (i.e., variables on which one should intervene), due to the explorative nature of our analyses. Thus, in order to provide definite conclusions regarding whether we should indeed intervene on these variables for achieving long-term RTW, future studies should a priori identify and examine these variables as determinants, while adjusting for confounding variables.

3). Improve our understanding of underlying mechanisms

Future studies should aim to improve our understanding of the underlying mechanisms of RTW interventions, and adjuvant OT in particular. For this purpose, future research should develop a specific instrument for measuring RTW-related coping, in order to further clarify the role of coping for achieving RTW. Finally, future studies may need to include specific instruments to measure cognitive coping, such as the Cognitive Emotion Regulation Questionnaire (CERQ).

4). Towards personalized medicine of RTW interventions

Findings in the present thesis (Chapter 4) provide support for the notion that RTW interventions should be matched with, or tailored to the motivational stage of the individual. In addition, exploratory findings (Chapter 3) suggest that adjuvant OT may be most effective for those with < 3 months of sickness absence. Although these preliminary results need to be confirmed in future studies, they emphasize the importance of moving beyond the evaluation of average effectiveness of RTW interventions, towards the identification of the best treatment option for a certain individual. This is in line with the growing interest in personalized medicine, which aims to optimize treatment outcome by improving the match between characteristics of a certain individual and his/her treatment received. In addition, future studies could explore potential combinations of characteristics that predict treatment outcome, such as patients with both low work motivation and short-term sickness absence.

5). Evaluate the cost-effectiveness of adjuvant OT

Finally, the cost-effectiveness of adjuvant OT should be examined. Although the societal perspective is generally considered most important for establishing cost-effectiveness, it may also be interesting to evaluate cost-effectiveness from different perspectives (e.g., the perspective of health insurance companies or employers), considering the differing perspectives on what constitutes successful treatment outcome. We are planning to conduct such a cost-effectiveness study in the near future.
CHAPTER 7

General Discussion

CONCLUSIONS

From the present thesis, it can be concluded that in a highly impaired population of sick-listed employees with MDD, addition of occupational therapy to treatment-as-usual increases (sustainable) depression recovery and return-to-work in good health (i.e., full return-to-work while being remitted and with better work- and role functioning). Although adjuvant occupational therapy (OT) did not demonstrate added benefit for improving overall work participation, there are indications that this added value may exist for certain subgroups of patients (i.e., patients with < 3 months of sickness absence, and patients with low work motivation). However, conclusions regarding the effectiveness of adjuvant OT are highly dependent on the stakeholder perspective from which these outcomes are evaluated.

IMPLICATIONS FOR CLINICAL PRACTICE

1). Use of adjuvant occupational therapy
Adjuvant OT is a promising intervention to improve sustainable depression recovery and return-to-work in good health for sick-listed employees with MDD. This is an important finding, considering the highly recurrent nature of MDD.52

2). Awareness of different perspectives regarding the goal of the RTW process
During the RTW process, all actors (employee, supervisor, occupational physician, mental health professionals) should be aware that each person may have a different perspective on the desired RTW outcome. It is therefore recommended that early on, stakeholders make these different perspectives explicit and identify a common goal as outcome of the RTW process. In addition, it is recommended that stakeholders together regularly evaluate to what extent this goal is achieved. Table 3 in Chapter 6 may provide a basis for the identification of important themes/concerted action.

3). Importance of early intervention and adequate clinical treatment
For employees with a DSM-IV diagnosis of MDD who report sick, early referral to adjuvant OT may be important. Furthermore, although it is sometimes suggested that disease characteristics are less important for improving adverse work outcomes in patients with a longer duration of sickness absence, professionals should not lose sight of symptom severity in long-term sick-listed patients with MDD, as adequate clinical treatment remains crucial.

4). Monitoring
In long-term sick-listed employees with MDD who receive clinical treatment, workers with a more favourable RTW-prognosis are those with low depression severity, absence of a co-morbid anxiety disorder, high work motivation and high conscientiousness. Although these findings will first need to be replicated, they could provide a starting point for clinicians and occupational health professionals to monitor these variables in order to determine whether sick-listed MDD patients are at increased risk for not achieving RTW, and whether referral to more intensive treatment may be needed.
CHAPTER 7 General Discussion

References


42. Abma FI, Bultmann U, Varekamp I, van der Klink JJ. Workers with health problems: three perspectives on functioning at work. Disabil Rehabil 2012.


