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RESEARCH PAPER

Health, work, and personal-related predictors of time to return to work among employees with mental health problems

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Purpose: To identify health-, personal- and work-related factors predictive of return to work (RTW) in employees sick-listed due to common mental health problems, such as, stress, depression, burnout, and anxiety. **Methods:** We distributed a baseline questionnaire to employees applying for sickness absence benefits at a large Danish welfare Department ($n=721$). A total of 298 employees returned the questionnaire containing information on possible predictors of RTW. We followed up all baseline responders for a maximum of one year in a national registry of social transfer payments, including sickness absence benefits. **Results:** At baseline, about 9% of respondents had quit their job, 10% were dismissed and the remaining 82% were still working for the same employer. The mean time to RTW, measured from the first day of absence, was 25 weeks (median = 21) and at the end of follow-up (52 weeks) 85% had returned to work. In the fitted Cox model we found that fulfilling the DSM-IV criteria for depression predicted a longer time to RTW (HR: 0.61, CI: 0.45–0.84), whereas a better self-rated health predicted a shorter time to RTW (HR: 1.18, CI: 1.03–1.34). Employees working in the municipal (HR: 0.62, CI: 0.41–0.94) and private sector (HR: 0.65, CI: 0.44–0.96) returned to work slower compared to employees working in the governmental sector. Gender, education, cohabitation, size of workplace, low-back and upper-neck pain and employment at baseline did not predict RTW. **Conclusion:** Our results indicate that time to RTW is determined by both health- and work-related factors.

Keywords: Sickness absence, return to work, disability, mental health, predictors

Introduction

Long-term sickness absence is a risk factor for permanent work loss and entails reduced career opportunities, income,

Implications for Rehabilitation

- Common mental health problems are one of the leading causes for sickness absence and work disability
- Return to work after sickness absence is not solely determined by improvements in health but is also affected by individual and work related factors
- This study showed that self-rated health, occupational sector and depression are predictors of time to return to work in employees with mental health problems

and self-esteem [1,2]. Today, common mental health problems (MHPs), such as stress, depression, and anxiety are among the leading causes for sickness absence and disability pensioning in many European countries [3–6]. In Denmark, the number of disability pensions granted due to MHPs increased by 33% from 2002 to 2006, with the highest increase in adjustment (102%), anxiety (69%), and depressive disorders (63%) [4]. To prevent workers with MHPs from becoming permanently excluded from the labour market, it is important to identify those factors that facilitate or hinder return to work (RTW) of temporarily disabled workers.

According to the International Classification of Functioning, Disability and Health (ICF), the functioning and disability of an individual are not solely determined by their health condition. Instead, disability and functioning are the result of a complex relationship between health, personal, and environmental factors [7]. Recently, two reviews looked into predictors of RTW for employees with depression and other common mental disorders. Lagerveld et al. [8] concluded that for employees with depression, there is moderate evidence that a more severe depressive episode, presence of co-morbid mental and physical disorders, older age and previous sick-leave are associated with

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a longer time to RTW. Cornelius et al. [9] found strong evidence for older age predicting a longer duration to RTW, and limited evidence for gender, recovery expectancy, education, depressive symptoms, shoulder/back pain, and supervisory support for employees with MHPs. However, this review only included seven studies of which four came from the same cohort and five came from the Netherlands. Previously, we have used data from sickness benefit application forms filled out by the sick-listed employees in Denmark to identify predictors of RTW [10]. The problem of using data from sickness benefit application forms, however, is that these forms are designed solely for administrative and not for research purposes – without emphasis on work-related factors. Hence, only one work-related factor, occupation, was included in our analysis. Therefore, we collected additional questionnaire-data from this population, to investigate a broader range of predictors of time to RTW. The overall aim of the present study was to identify factors which either impede or facilitate RTW in employees with MHPs. In this paper we examine health, personal and work-related predictors of time to RTW based on data from the questionnaire-respondents, i.e. a sub-sample of the participants from our previous analysis [10].

Methods

Recruitment

We recruited participants among employees who applied for sickness absence benefits to the Job Centre Copenhagen, a municipal welfare department responsible for managing sickness benefit payments and developing reintegration plans for disabled workers. In Denmark, the employer finances sickness absence benefits for 3 weeks of absence – hereafter the employer is eligible for reimbursement from the municipality (during the time of the present study, 2007–2008, the employer paid sickness benefits for 2 weeks). In some cases, reimbursement can be paid from first day of absence, for instance if the employer contracted an insurance policy (small companies only) or if the sick-listed employee has a certified chronic condition. The Danish public sickness absence benefit scheme covers wage-earners, self-employed, and unemployed persons. Benefits can be received for a maximum of 52 weeks. No distinction is made between work and non-work related sick leave [11].

Participants

From July to December 2007 we sent a baseline questionnaire to all employees who applied for sickness absence benefits due to a self-reported MHP ($n = 721$). Employees who had already been sick-listed for more than 12 weeks were excluded from the study. The questionnaire was returned by 298 employees (response rate of 41%). A non-response analysis showed that mean time to RTW was similar in responders (25 weeks) and non-responders (24 weeks) and no difference was found regarding age and prior sickness absence due to MHPs. However, non-responders were more likely to be men (36% of non-responders vs. 23% of responders).

For the current analysis, we excluded 20 employees because of loss to follow-up in the registry. Further, we excluded 24 employees who had resumed work at baseline and

50 employees with missing data on one or more of the predictor variables. The final sample consisted of 205 employees who were sick-listed for, on average, 7 weeks ($SD = 2.1$) at baseline. Details on the data collection and recruitment strategy have been reported elsewhere [12].

Predictors

From the baseline questionnaires we retrieved data on health-related factors (depressive symptoms, low-back and shoulder-neck pain, and self-rated health), personal factors (age, gender, cohabitation, and education) and work-related factors (size of workplace, sector and employment status at baseline). We selected these variables, partly because they had been identified as predictors for RTW in previous studies from other countries (e.g. age, self-rated health [8,9]). Regarding the work domain we selected more objective factors (for instance size of workplace and sector) because there is a high risk that employees with major depression, who constitute a large proportion of our sample, will evaluate their working conditions more negatively than non-depressed participants. Finally, we selected health-related factors associated with the reason for absence (depression) and factors not related to the reason for absence (low-back and shoulder-neck pain) to investigate if health factors are only predictive of RTW if associated with the reason for absence.

We measured low-back and shoulder-neck pain with the Standardized Nordic Questionnaire for the analysis of musculoskeletal symptoms (0–10), self-rated health on a scale from 0–5 (poor–excellent health) during the last year in accordance with SF-36 and major depression and depressive symptoms with the Major Depression Inventory (MDI). The MDI is a 10-item self-rating scale for symptoms characteristic of depression validated in both clinical and population-based studies [13–15]. Major depression, in accordance with the criteria of the Diagnostic and Statistical Manual (DSM-IV) [16], is assessed by an algorithm, which has been validated in a clinical study showing a sensitivity of 0.90 and specificity of 0.82 for detecting major depression assessed by a diagnostic clinical interview [13]. In addition to the algorithm, the MDI measures depressive symptoms on a scale from 0–50. To test for a relationship between the severity of depressive symptoms and time to RTW, we entered depressive symptoms as a continuous variable. We categorized education into below versus above ten years of schooling, cohabitation into living with versus living without a partner/spouse. Finally, we categorized occupational sector into private, municipal and governmental sector, size of workplace into large (>250 employees) and small (≤ 250), and employment status into “still employed by pre-absence employer”, “quit” and “dismissed”.

Time to RTW

We ascertained time to full RTW by linking the respondents' unique social security number with the Danish National Register of Social Transfer payments (DREAM-registry), which contains weekly updated information on all social transfers in Denmark, including sickness absence and unemployment benefits. Time to RTW was measured from the first day of absence until RTW or censoring. Time to RTW was

defined as no longer receiving sickness absence or unemployment benefits. Participants were censored if they died, emigrated from Denmark, received old-age pension, disability pension, maternity leave benefits, scholarships or at the end of follow-up (52 weeks, the maximum period of sickness absence payments), whichever came first.

Statistical analyses

We used Kaplan–Meier survival tables to estimate mean and median time to RTW and Cox proportional hazard regression to estimate hazard ratios (HR) and 95% confidence intervals (95% CI). Because participants were not considered “at risk” between the first day of sickness absence and inclusion in the study, this lag time was omitted from the duration of time to RTW in the Cox model. First, we conducted univariable analyses for all factors separately. Second, we conducted a multivariate analysis, which we fitted using a backward stepwise regression. The elimination of non-significant predictors was based on Wald statistics (with a significance level of ≤ 0.1) and the factor with the highest p value was removed first. We conducted all analysis in PASW version 18.

Results

Table I shows the characteristics of the study participants at baseline and the associations between these characteristics and time to RTW. Of the 205 participants, 163 (80%) were women with a mean age of 40 years (SD = 10.1). About 19% of the baseline respondents worked in the governmental sector, 49% in the private sector (including public-private sector) and 33% in the municipal sector. At baseline, 9% had quit their job, 10% were dismissed and the remaining 82% were still

Table I. Study participants' characteristics and with median time to RTW with 95% confidence intervals (CI).

Continuous variables	Mean (SD)	
Age	40.1 (10.1)	
Self-rated health (0–4)	1.8 (1.1)	
Shoulder/neck pain (0–9)	3.0 (2.6)	
Low back pain (0–9)	2.5 (2.5)	
Categorical variables	n (%)	Median time to RTW (95% CI)
Major DSM-IV depression		
No	124 (60.5)	18.0 (15.72–20.26)
Yes	81 (39.5)	25.0 (18.47–31.53)
Gender		
Women	163 (79.5)	20.0 (18.42–21.58)
Men	42 (20.5)	21.0 (16.47–25.53)
Education		
Low	59 (28.8)	19.0 (16.81–21.19)
High	146 (71.2)	21.0 (18.13–23.87)
Cohabitation		
No	108 (52.7)	20.0 (17.85–22.14)
Yes	97 (47.3)	21.0 (18.86–23.14)
Employment at baseline		
Employed	167 (81.5)	20.0 (18.31–21.69)
Dismissed	20 (9.8)	22.0 (14.86–29.14)
Quit	18 (8.8)	13.0 (10.44–15.56)
Size of workplace		
Small	162 (79.0)	21.0 (18.59–23.41)
Large	43 (21.0)	16.0 (9.58–22.43)
Sector		
Governmental	38 (18.5)	19.0 (16.02–21.98)
Private	100 (48.8)	20.0 (17.77–22.23)
Municipal	67 (32.7)	23.0 (17.84–28.16)

Median time to RTW were calculated using Kaplan–Meier.

Table II. Hazard ratios (HR) with 95% Confidence Intervals (CI) for time to RTW for employees with MHPs.

		HR (95% CI)	
		Univariable	Fitted model
Age	One year increase	1.01 (0.98–1.02)	-
Self-rated health	One point increase	1.19 (1.04–1.35)*	1.18 (1.03–1.34)*
Shoulder/neck pain	One point increase	0.94 (0.89–1.00)	-
Low back pain	One point increase	0.94 (0.88–1.00)	-
DSM-IV Depression	No (reference)	0.59 (0.43–0.80)*	0.61 (0.45–0.84)*
	Yes		
Gender	Women (reference)	0.82 (0.56–1.19)	
	Men		
Education	Low (reference)	0.94 (0.67–1.31)	-
	High		
Cohabitation	No (reference)	1.06 (0.79–1.43)	-
	Yes		
Employment at baseline	Employed (reference)		-
	Dismissed	0.86 (0.51–1.44)	
	Quit	1.73 (1.04–2.87)	
Size of workplace	Small (reference)		-
	Large	1.33 (0.93–1.90)	
Sector	Governmental (reference)		
	Private	0.65 (0.44–0.95)*	0.65 (0.44–0.96)*
	Municipal	0.62 (0.41–0.94)*	0.62 (0.41–0.94)*

Analyses were based on Cox regression modelling.

employed by their pre-absence employer. The median time to RTW, measured from the first day of absence, was 21 weeks. At the end of follow-up, 85% had returned to work ($n = 174$), 7% did not return ($n = 15$), and 8% were censored ($n = 16$) (data not shown in table).

Table II shows the results from the univariable and the fitted analysis on RTW. In the univariable analysis factors related to health (shoulder-neck pain, depressive symptoms, self-rated health) and work (type of sector) predicted time to RTW whereas none of the personal factors were statistically significantly associated with time to RTW. With the exception of shoulder-neck pain, all predictors in the univariable analysis remained statistically significant in the fitted analysis. The analysis showed that having a DSM-IV major depression predicted a longer time to RTW (HR: 0.61, CI: 0.45–0.84) and that a one point increase on the MDI scale predicted a longer time to RTW (HR: 0.98, CI: 0.96–0.99). A better self-rated health predicted a shorter time to RTW (HR: 1.18, CI: 1.03–1.34). Compared to employees working in the governmental sector, employees in the municipal (HR: 0.62, CI: 0.41–0.94) and private sectors (HR: 0.65, CI: 0.44–0.96) had a longer time to RTW. Employment status at baseline was not statistically associated with time to RTW, but the few employees who had quit their job at baseline showed a tendency to have a shorter time to RTW compared to those who were employed (median: 13 vs. 20 weeks).

Discussion

In this study we investigated a range of possible predictors of time to RTW related to the health-, personal-, and work domain among employees with MHPs. We found that sick-listed employees with a DSM-IV major depression had a longer time to RTW, which concurs with findings from Shiels [17] and Nieuwenhuijsen et al. [18]. The median time to RTW was 25 weeks for employees with a major depression, which is close to findings from Koopmans et al. [19] who found a mean of 179 days (about 26 weeks) and 201 days (about 29 weeks) for men and women with depression, respectively. Previously Hjarsbech et al. [20] found a dose-response relationship between severity of depressive symptoms and risk of long-term sickness absence, and that the adverse effect of depression was manifest at a relatively low level of depressive symptom scores, i.e. well-below the threshold for a clinical depression. In our analysis with the continuous measure of depressive symptoms we found that higher depressive symptoms on the MDI scale predicted a longer time to RTW, suggesting a dose-response relationship between depressive symptoms and time to RTW. This finding is in-line with results from Brouwers et al. [21] but in contrast to Nieuwenhuijsen et al. – a difference possibly resulting from different measurement tools and cut-off points. Whereas Nieuwenhuijsen et al. used the Depression Anxiety Stress Scale (DASS) and dichotomized depressive symptoms, Brouwers et al. used the Four-dimensional Symptom Questionnaire and used the continuous symptoms score as we did in our study.

We also found that a better self-rated health predicted a shorter time to RTW. It is well-known from numerous

epidemiological studies that self-rated health is a strong predictor of both morbidity and mortality [22–25]. However, the relation between self-rated health and RTW has been less examined. One study by Post et al. [26] found that both the general health and the mental health scale of the SF-36 predicted RTW. This is in-line with our findings showing that low self-rated general health and high-levels of depressive symptoms, independently from each other, were associated with a longer time to RTW. Together, these findings both indicate, that low self-rated health may also be an important predictor for RTW.

None of the personal factors (cohabitation, age, gender, and education) in this study were related to time to RTW. In contrast to our findings, Cornelius et al. and Lagerveld et al. reported in their reviews strong evidence for older age as a predictor of a longer time to RTW [8,9]. None of the personal factors (cohabitation, age, gender and education) in this study were related to time to RTW. In contrast to our findings, by Cornelius et al. and Lagerveld et al. reported strong evidence for older age as a predictor of a longer time to RTW. Likewise, a Danish study by Stoltenberg and Skov [27] found that age significantly predicted RTW, but only among persons aged 50–58 years. The authors suggest that this particular age group could be more vulnerable for exclusion from the labor market as employers might expect that they will not stay at work, because they become eligible for post-employment benefits. In the present study we entered age as a linear variable, and the non-linear effect found by Stoltenberg and Skov [27], may explain the lack of association. However, given our modest sample size, we did not examine effects of age above 50 years. In relation to personal factors more generally, we acknowledge that the number of personal factors measured in this study was limited. For example, the study did not include measures of personality, coping or RTW-attitudes. Hence, whereas the personal factors included in the analysis did not predict RTW, we cannot rule out that other personal factors might do so.

Regarding the work domain, we found that employees from the governmental sector had a shorter time to RTW than employees from the municipal and private sector. This is in contrast to findings from Engström et al., who found that sector (public vs. private) was not related to time to RTW among Swedish employees sick-listed with stress-related conditions [28]. This finding suggests that a differentiation between private vs. public sector is too crude to identify possible differences between occupational sector and RTW. In this study, we found differences in RTW between employees working in the governmental and municipal sector indicating different risk profiles for employees in the public sector. Furthermore we found a statistically non-significant tendency of employees from larger workplaces to have a shorter time to RTW. The size of workplace may affect the disabled worker's chance of RTW because larger workplaces have better opportunities for replacement and work accommodation, allowing the employee to return before full recovery. Accordingly, Koopmans et al. found that employees from large workplaces RTW faster compared to employees from small size workplaces [19], however, Engström et al. [28] did not find

an effect of size of workplace. Clearly, we need more research looking into the role of occupational sector and size of workplace before any firm conclusions can be drawn.

Although we did not find an effect of job loss on time to RTW, employees who quit their job at baseline tended to have a shorter time to RTW, albeit this effect was statistically non-significant. This finding may indicate that employees, who leave their workplace voluntarily, are more resourceful than employees who stay with the same employer. Findings could also suggest that sometimes specific problems at a specific workplace, like stigma, might prevent employees from returning to work. In Denmark, employers may dismiss disabled workers on sick-leave. Earlier Høgelund et al. reported that Danish employees sick-listed with MHPs were less likely than employees sick-listed with musculoskeletal problems to RTW for their pre-absence employer [29]. In the present study we found that about 10% of the respondents were dismissed and 9% had quit their job at the time of the baseline data collection. The relatively high rate of dismissals could be explained by the stigma attached to MHPs and by concerns of employers that MHPs will be related to low productivity after RTW. Moreover, problematic social relations at work, such as conflicts with supervisors or bullying might contribute both to the onset of MHPs and to an unwillingness of the employee to return to the original workplace [30].

The identification of predictors of RTW is a prerequisite for developing effective RTW interventions. First, knowledge about predictors will help RTW and health professionals to identify employees at high risk for prolonged absence. Second, although some predictors are not amendable to change, e.g. age and gender, identification of these predictors will help physicians and RTW professional in developing work ability assessments and RTW-prognoses. Finally, predictors which are amendable to change, such as depressive symptoms, can be targeted with specific interventions and treatments.

Strengths and limitations of the study

The prospective design, the use of a validated self-rating scale to measure depression and severity of depressive symptoms, and the use of registry data for time to RTW are the strengths of this study. The use of a validated rating scale, instead of a clinical diagnostic interview to assess depression, has both advantages and disadvantages. Whereas a clinical diagnostic interview is regarded as the gold standard for determining the presence or absence of clinical depression, the advantage of a self-rating scale is that it allows the assessment of sub-clinical depressive symptoms and depressive symptoms on a continuous scale.

The low response rate (41%) is a limitation of this study and might induce selection bias, e.g. if healthier, more resourceful employees are more likely to answer the questionnaire. However, no difference among respondents and non-respondents regarding time to first RTW was found [12]. Another problem pertains to the inclusion of participants based on self-reported reasons for sickness absence and not on diagnoses made by physicians or other health professionals. The reason for this was that in Denmark, sickness absence is self-certified until social insurance officers in the Job Centres

request a medical certificate. It is possible that employees did not report MHPs to avoid stigma or because employees and their general practitioners were unaware of the presence of MHPs.

Conclusion

This study found that self-rated health, depression, and occupational sector, independently from each other, predicted time to RTW among employees sick-listed with MHPs. The findings underline the importance of health for RTW, but also show that health is not the only predictor. The strong impact of prevalent depression and severity of depressive symptoms on time to RTW in this study implies that interventions and treatment for depression should be strongly considered by health- and rehabilitation-professionals.

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References

1. Svensson T, Müssener U, Alexanderson K. Pride, empowerment, and return to work: on the significance of promoting positive social emotions among sickness absentees. *Work* 2006;27:57–65.
2. Sieurin L, Josephson M, Vingård E. Positive and negative consequences of sick leave for the individual, with special focus on part-time sick leave. *Scand J Public Health* 2009;37:50–56.
3. Brown J, Hanlon P, Turok I, Webster D, Arnott J, Macdonald EB. Mental health as a reason for claiming incapacity benefit—a comparison of national and local trends. *J Public Health (Oxf)* 2009;31:74–80.
4. Decision of the National Social Appeals Denmark [Internet]. 2010 – Available from: Available at: <http://www.ast.dk/publikationer/statistikker/foertidspension/> Accessed 25 March, 2010
5. Hensing G, Wahlström R. Swedish Council on Technology Assessment in Health Care (SBU). Chapter 7. Sickness absence and psychiatric disorders. *Scand J Public Health Suppl* 2004;63:152–180.
6. Hensing G, Andersson L, Brage S. Increase in sickness absence with psychiatric diagnosis in Norway: a general population-based epidemiologic study of age, gender and regional distribution. *BMC Med* 2006;4:19.
7. World Health Organization (WHO). International Classification of functioning, disability and health (ICF). Geneva: 2001.
8. Lagerveld SE, Bültmann U, Franche RL, van Dijk FJ, Vlasveld MC, van der Feltz-Cornelis CM, Bruinvels DJ, et al. Factors associated with work participation and work functioning in depressed workers: a systematic review. *J Occup Rehabil* 2010;20:275–292.
9. Cornelius LR, van der Klink JJ, Groothoff JW, Brouwer S. Prognostic factors of long term disability due to mental disorders: a systematic review. *J Occup Rehabil* 2011;21:259–274.
10. Nielsen MB, Madsen IE, Bültmann U, Christensen U, Diderichsen F, Rugulies R. Predictors of return to work in employees sick-listed with mental health problems: findings from a longitudinal study. *Eur J Public Health* 2011;21:806–811.
11. The National Labour Market Authority Denmark [Internet]. 2010 - Available from: <http://www.ams.dk/Ams/Vejviser-for-kommuner/Sygedagpenge.aspx> Accessed 25 March, 2010
12. Nielsen MB, Bültmann U, Amby M, Christensen U, Diderichsen F, Rugulies R. Return to work among employees with common mental disorders: study design and baseline findings from a mixed-method follow-up study. *Scand J Public Health* 2010;38:864–872.
13. Forsell Y. The Major Depression Inventory versus Schedules for Clinical Assessment in Neuropsychiatry in a population sample. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:209–213.
14. Olsen LR, Jensen DV, Noerholm V, Martiny K, Bech P. The internal and external validity of the Major Depression Inventory in measuring severity of depressive states. *Psychol Med* 2003;33:351–356.
15. Olsen LR, Mortensen EL, Bech P. Prevalence of major depression and stress indicators in the Danish general population. *Acta Psychiatr Scand* 2004;109:96–103.

16. American Psychiatric Association [Internet]. 2010 - [cited 2010 October 30]; Available from: Available at: <http://www.psych.org/MainMenu/Research/DSMIV.aspx> Accessed 25 March, 2010
17. Shiels C, Gabbay MB, Ford FM. Patient factors associated with duration of certified sickness absence and transition to long-term incapacity. *Br J Gen Pract* 2004;54:86–91.
18. Nieuwenhuijsen K, Verbeek JH, de Boer AG, Blonk RW, van Dijk FJ. Predicting the duration of sickness absence for patients with common mental disorders in occupational health care. *Scand J Work Environ Health* 2006;32:67–74.
19. Koopmans PC, Roelen CA, Groothoff JW. Sickness absence due to depressive symptoms. *Int Arch Occup Environ Health* 2008;81:711–719.
20. Hjarsbech PU, Andersen RV, Christensen KB, Aust B, Borg V, Rugulies R. Clinical and non-clinical depressive symptoms and risk of long-term sickness absence among female employees in the Danish elder-care sector. *J Affect Disord* 2011;129:87–93.
21. Brouwers EP, Terluin B, Tiemens BG, Verhaak PF. Predicting return to work in employees sick-listed due to minor mental disorders. *J Occup Rehabil* 2009;19:323–332.
22. Burström B, Fredlund P. Self rated health: Is it as good a predictor of subsequent mortality among adults in lower as well as in higher social classes? *J Epidemiol Community Health* 2001;55:836–840.
23. Heistaro S, Jousilahti P, Lahelma E, Vartiainen E, Puska P. Self rated health and mortality: a long term prospective study in eastern Finland. *J Epidemiol Community Health* 2001;55:227–232.
24. Idler EL, Benyamini Y. Self-rated health and mortality: a review of twenty-seven community studies. *J Health Soc Behav* 1997;38:21–37.
25. Kaplan GA, Camacho T. Perceived health and mortality: a nine-year follow-up of the human population laboratory cohort. *Am J Epidemiol* 1983;117:292–304.
26. Post M, Krol B, Groothoff JW. Self-rated health as a predictor of return to work among employees on long-term sickness absence. *Disabil Rehabil* 2006;28:289–297.
27. Stoltenberg CD, Skov PG. Determinants of return to work after long-term sickness absence in six Danish municipalities. *Scand J Public Health* 2010;38:299–308.
28. Engström LG, Janson S. Stress-related sickness absence and return to labour market in Sweden. *Disabil Rehabil* 2007;29:411–416.
29. Høgelund J, Filges T, Jensen S. Langvarigt sygefravær – hvad sker der, og hvordan går det? [Long-term sickness absence - what happens and how does it turn out?]. København: Socialforskningsinstituttet; 2003.
30. Magnusson Hanson LL, Theorell T, Bech P, Rugulies R, Burr H, Hyde M, Oxenstierna G, Westerlund H. Psychosocial working conditions and depressive symptoms among Swedish employees. *Int Arch Occup Environ Health* 2009;82:951–960.