Does self-efficacy predict return-to-work after sickness absence? A prospective study among 930 employees with sickness absence for three weeks or more
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Does self-efficacy predict return-to-work after sickness absence? A prospective study among 930 employees with sickness absence for three weeks or more

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Abstract. Aim: To compare levels of self-efficacy among the general working population and employees with sickness absence from work, and to examine if general self-efficacy measured before occurrence of sickness absence predicted subsequent onset of sickness absence and Return-to-Work.

Methods: The study follows a cohort of 5357 working employees and 106 long-term sickness absent employees in Denmark. They were interviewed in 2000 regarding self-efficacy and various co-variates, and followed for 78 weeks in a national sickness absence register. Cox regression analysis was performed in order to assess the effect of self-efficacy on Return-to-Work after sickness absence.

Results: General self-efficacy was significantly lower among those with sickness absence compared to the general working population. Self-efficacy showed no statistically significant association with later onset of sickness absence or with Return-to-Work.

Conclusion: The results may suggest that lower self-efficacy among employees with sickness absence is a result of the sickness absence itself rather than a precursor of it. This indicates a need to investigate the potential change in self-efficacy in relation to the employee’s change in labor market status; this will help to focus Return-to-Work interventions where planning has to be attentive towards the change in self-efficacy that can occur after onset of disease and sickness absence.

Keywords: Sickness absence, return to work, self-efficacy, register, Denmark

1. Introduction

Absence from work due to sickness can have considerable negative effects for employees, employers and the society. Sickness absence constitutes a public health problem with associated economic burdens [2,7,14]. Especially long-term sickness absence contributes disproportionately to these economic burdens [7,37]. Also, longer sickness absence is associated with a reduced probability of Return-to-Work (RTW) and subsequent economic and social deprivation [11,21,24,35,37]. Sickness absence and RTW are not uniquely biomedical outcomes, but are processes in a variety of social, psychological, and economic factors not necessarily specific to the underlying or precipitating injury
or illness [23]. Sickness refers to another dimension than illness and disease, namely the social role that a person who has illness or disease is given, or takes, in a society. What legitimizes such a sick role varies widely over time and among cultures [1].

Just who returns to work after sickness absence is notoriously difficult to predict. Various occupational- and health-related factors have been identified as predictors of RTW [3,23].

Over the years many risk factors for prolonged disability have been investigated. Associations between specific occupational risk factors and duration of sickness absence are well documented. Several physical work-environment exposures have been associated with sickness absence, for example, heavy physical work and repetitive movements [6,18,19,36]. Psychosocial work environment risk factors have also been associated with sickness absence, e.g. low job satisfaction, low decision latitude, lack of control, high demands and other psychosocial work environment stressors [6, 15,16,18,24,26,27,33]. Likewise there is an extensive body of literature providing evidence for the association of depression on sickness absence and work disability [8,9,17,20]. Only a few studies focus on the association between personal characteristics and duration of sickness absence. Studies addressing gaps in present and needs in future sickness absence and RTW research, conclude that more insight is needed to understand the barriers preventing work-disabled employees from returning to the labor market [1,22,23].

Self-efficacy has been highlighted in the literature as playing an important role in the RTW process [3,4,12, 13]. Self-efficacy is generally defined as confidence in being able to carry out a set of specified activities [5]. It is presumed to be a consequence of the interplay of the employment situation, the medical care process, and the individual worker’s health and personal characteristics [32].

When addressing self-efficacy and RTW, Amick and colleagues stress the importance of improving self-efficacy and creating supportive organizations in order to maintain successful “work role functioning”. This term refers to a tool developed to measure work ability [3]. Faucett et al. also found that self-efficacy was associated with RTW and successful work role functioning [12]. Moreover, Arnstein found self-efficacy to be an important variable contributing to the disability of chronic pain patients [4]. Therefore, evaluating and bolstering the employee’s belief in their own abilities may be an important component of the rehabilitation process. In all three studies, treatment and programs where designed to improve self-efficacy among patients with chronic disease. According to van Yperen and Snijders, “general self-efficacy is defined as the expectation that one is generally able to successfully carry out the actions required to produce the desired outcomes” [34]. Very few studies on self-efficacy, and the outcomes sickness absence and RTW, are conducted before employees become cases (patients). No research has been conducted addressing self-efficacy in a general working population and its predictability with respect to sickness absence and RTW. Yet this now seems vital, in order to better understand the disability process and to target interventions aimed at populations at risk for permanent labor market exclusion. This longitudinal cohort study provides a unique opportunity to investigate the effect of individual differences, defined in terms of self-efficacy, on RTW after sickness absence, taking into account workplace factors proven to affect duration of sickness absence. The aim of this study was to compare levels of self-efficacy among the general working population and employees with sickness absence from work, and to examine if general self-efficacy measured before occurrence of sickness absence predicted subsequent onset of sickness absence and RTW.

2. Methods

2.1. Data

The study is a prospective cohort study combining data from the Danish Work Environment Cohort Study (DWECS) and a National register on social transfer payments (DREAM).

2.1.1. Danish Work Environment Cohort Study – DWECS

DWECS features a random sample of 11,437 people between 18 and 69 years of age living in Denmark, interviewed in year 2000 regarding their job, work environment exposures, age, gender, and self-efficacy. A total of 8583 persons responded to the interviews, yielding a response rate of 75%. Of these, 5357 were employees defined as working for the last 8 consecutive weeks or more, and 106 were long-term sickness absent, defined as sickness absent for the last 8 consecutive weeks or more.
2.1.2. DREAM

DREAM is based on data from the Danish Ministry of Employment, the Ministry of Social Affairs and the Ministry of Education, and contains comprehensive information on social transfer payments to residents of Denmark from mid-1991, including granted sickness absence compensation since 1998. Sickness absence compensation is given to the employer, who can apply for a refund from the State for employees after two weeks of sickness absence [25]. DREAM records the type of social transfer payment per week for each person. DREAM includes approximately 3.3 million people and is updated every three months. The weekly information on transfer payments is registered if a person has received any kind of transfer payment for more than one day in a given week. It is possible to register only one type of weekly information on transfer payments, and if more days are registered the system will in some cases overwrite the codes when the information is updated. Sickness absence compensation always has the higher priority.

2.2. Population

DREAM was used to identify persons who experienced sickness absence periods of at least three weeks between 1 January 2001 and 30 June 2002: A total of 930 subjects were identified. The subjects were followed for 52 weeks additionally after onset of sickness absence in order to examine the duration of sickness absence from work. All subjects were thus followed for the same number of weeks after onset of sickness absence.

2.3. Self-efficacy measured in DWECS

Self-efficacy was measured with a scale consisting of three items, each with five response categories. The items derive from the Generalized Self-efficacy Scale developed by Ralf Schwarzer [29,30]. A translation of the original ten-item scale was used in a representative sample of the Danish Longitudinal Health Behavior Study [10]. Based on psychometrical analyses of the items’ function in this sample, three items from the scale were chosen to be included in the DWECS questionnaire. Both the wording and the response categories were slightly amended. The final items were: ‘How often does the following apply to you:’ 1) ‘I’m good at handling unexpected situations’, 2) ‘I can solve most problems if I really want to’ and 3) ‘No matter what happens in my life, I feel confident I can handle it’. The response options were ‘Always’, ‘Often’, ‘Sometimes’, ‘Seldom’, ‘Never/hardly ever’. The scale is standardized from 0–100. Within our study population the mean measured 82.06 with a SD of 14.84. Cronbach’s alpha was calculated to 0.74 and inter-item correlations ranged from 0.41 to 0.59.

2.4. Outcome

Sickness absence was defined as receiving sickness absence compensation for three consecutive weeks or more during the period from 1 January 2001 to 30 June 2002.

RTW was defined as cessation of sickness absence benefit and receiving no other social transfer benefits for at least one week hereafter in a period of 52 weeks after onset of sickness absence according to the definition above.

2.5. Background variables

The study includes data on gender and baseline age of the individual employee.

2.6. Analysis

The analysis consists of three steps.

2.6.1. Self-efficacy and work status

To establish possible variance in self-efficacy score according to work status at baseline (working vs. sickness absent), mean self-efficacy score and 95% confidence intervals were calculated for those working at baseline, and for those with sickness absent at baseline.

2.6.2. Self-efficacy score before onset of sickness absence and subsequent RTW

In order to analyze the effect of self-efficacy on RTW after sickness absence, the 930 sickness absent employees were divided into six overlapping sub-samples, with, respectively, three to four, four to five, five to six, six to seven, seven to eight, and eight weeks or more of sickness absence from work. This was done in order to study if the effect of self-efficacy on RTW varied across length of the preceding sickness absence period. All subjects were followed for 52 weeks after onset of sickness absence. The Cox proportional hazards model (time to event analyses, the event being RTW) was used to calculate age-adjusted Hazard Ratios for RTW. Subjects were censored if they had died, retired, or emigrated, but were considered under risk until the time of death, retirement, or emigration.
2.6.3. Self-efficacy score among those sickness absent at baseline and subsequent RTW

In order to study if self-efficacy predicted RTW among those with at least 8 weeks of sickness absence at baseline, the Cox proportional hazards model (time to event analyses, the event being RTW) was used to calculate age-adjusted Hazard Ratios for RTW for a period of 52 weeks after baseline assessment of absence and self-efficacy. Subjects were censored if they had died, retired, or emigrated, but were considered under risk until the time of death, retirement, or emigration.

3. Results

Of the 5357 employees from DWECS followed for 78 weeks, six overlapping sub-samples were identified: 930 (17.4%) subjects with three to four weeks work absence (sub-sample I), 732 (13.7%) subjects with four to five weeks work absence (sub-sample II), 620 (11.6%) subjects with five to six weeks work absence (sub-sample III), 497 subjects (9.3%) with six to seven weeks work absence (sub-sample IV), 419 subjects (7.8%) with seven to eight weeks work absence (sub-sample V), and 362 subjects (6.8%) with eight weeks work absence or more (sub-sample VI). In addition 106 employees were sickness absent at baseline. Table 1 shows mean self-efficacy scores with 95% confidence intervals in the working population (5266 (98.3%) provided information on self-efficacy in DWECS), among those sickness absent at baseline (104 (98.1%) provided information on self-efficacy), and among the 918 of the 930 (98.7%) who developed sickness absence from work during follow-up, who provided information about self-efficacy (Table 1).

Self-efficacy scores were significantly lower in the sub-sample of persons who were sickness absent at baseline. Self-efficacy showed no association with later onset sickness absence (results not shown).

Table 2 shows age-adjusted Hazard Ratios, indicating the effect of self-efficacy on the rate of RTW for the six sub-samples. Table 3 shows age-adjusted Hazard Ratios, indicating the effect of self-efficacy on the RTW rate for the 104 persons who were sickness absent at baseline.

4. Discussion

In this study, a random sample of 5357 employees and 106 persons with sickness absence for 8 weeks or more were interviewed regarding work environment, health, and self-efficacy. There was a significant difference in the self-efficacy score between those working and those with sickness absence from work, as measured at baseline. Self-efficacy measured with the baseline questionnaire (DWECS) in a random sample of the working population showed no statistically significant association with subsequent sickness absence or RTW.

4.1. Measurements

In this study, RTW was defined as cessation of sickness absence benefit and receiving no other social transfer benefits. However, it can be argued that, from an occupational health care perspective, successful RTW
is only achieved when there is no relapse and work attendance is sustained over a longer period of time. Hesitation to return to work after sickness absence involves not only concerns about re-occurrence of sickness absence, but also the perceived ability to perform expected tasks, meet role expectations, and maintain job security [31].

Factors that force employees with sickness absence from work into a premature and unsafe RTW are seldom considered in the literature. It is important to consider that fear of losing one’s job and financial strain might influence the employee’s judgment and can contribute to the decision of going back to work too soon, increasing risk of re-injury and ill health [28]. Future research should include both self-reported and administrative data on disability and RTW, in order to ensure a comprehensive assessment of work-related disability and to provide the means to assess the magnitude of reporting biases from any one data source.

4.2. Limitations of the study

In this study self-efficacy was measured with a scale consisting of three items from the original ten-item Generalized Self-efficacy Scale [29,30]. The three items were selected based on psychometrical analyses of their function in the Danish Longitudinal Health Behaviour Study [10]; the purpose of which was to investigate the health behavior of the sample. This means that while three items derive from the original scale, direct comparisons with other studies using the full Generalized Self-efficacy Scale are not possible. Furthermore the scale was developed for a health behavior study and not a RTW study. To develop an adequate measure of self-efficacy for RTW, the theoretical construct of self-efficacy beliefs within the work disability process needs further exploration [31].

4.3. Conclusion

In this study sickness absence and RTW could not be predicted by general self-efficacy. The results may suggest that the lower self-efficacy among sickness absent employees is a result of the sickness absence itself rather than a precursor of it.

The present study clearly shows differences in self-efficacy score with change in labor market status. In addition the study can contribute to the understanding of the process from being at work, to experiencing sickness absence, and subsequently returning to work. The results indicate a need to investigate the potential change in perception of psychological factors in relation to change in labor market status. This is important when designing RTW interventions, where planning has to be attentive towards the change in self-efficacy that can occur after onset of disease and sickness absence.

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