

SICKNESS PRESENCE AMONG DISABLED WORKERS AT THE UNIVERSITY MEDICAL CENTRE LJUBLJANA

PREZENTIZEM MED INVALIDI V UNIVERZITETENEM KLINIČNEM CENTRU LJUBLJANA

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ABSTRACT

Keywords:

Sickness presence, health care professionals, disabled workers

Objectives. The aim of the article is to investigate the differences in sickness present and non-sickness present in the group of disabled health care professionals.

Methods. Data were gathered from all disabled health care professionals suffering from invalidity of category II or III who were identified in the research among all health care professionals at the University Medical Centre Ljubljana and who were employed there in the period between 1 January 2010 and 31 December 2010. Each employee obtained a questionnaire composed of three standardized international questionnaires.

Results. There were 248 disabled workers of the II. and III. category of invalidity among the participants. Disabled sickness present reported to have more chronic diseases than disabled non-sickness present (OR = 57.0; 95% CI = 24.4-133.2), lower salary when on sick leave (OR = 13.1; 95% CI = 5.7- 30.2) and poor self-rated health (OR = 5.8; 95% CI = 2.7-12.3).

Conclusions. The prerequisite for sickness presence among disabled workers is their chronic bad health. It is also formally recognized with the degree of disability. Economic factors are among the most important to direct disabled workers towards sickness presence. The results indicate that workplaces are not adapted to disabled workers in regard to their limitations.

IZVLEČEK

Ključne besede:

prezentizem, zdravstveni delavci, invalidi

Namen. Osnovni namen članka je raziskati razlike med prezentisti in neprezentisti znotraj skupine zdravstvenih delavcev invalidov.

Metode. V raziskavi so sodelovali vsi invalidi II. in III. kategorije, ki so zaposleni v Univerzitetnem kliničnem centru Ljubljana in ki smo jih identificirali v raziskavi, ki je zajela vse zaposlene zdravstvene delavce UKC Ljubljana v obdobju med 1. 1. 2010 in 31. 12. 2010. Izpolnili so vprašalnik, sestavljen iz treh standardiziranih mednarodnih vprašalnikov.

Rezultati. Med preiskovanci je bilo 248 invalidov II. in III. kategorije. Invalidi prezentisti so navajali več kroničnih bolezni kot invalidi neprezentisti (RO = 57.0; 95 % IZ = 24.4-133.2), nižji osebni dohodek ob bolniškem staležu (RO = 13.1; 95 % IZ = 5.7-30.2) in slabšo samooceno zdravstvenega stanja (RO = 5.8; 95 % IZ = 2.7-12.3).

Zaključek. Osnova za prezentizem pri delovnih invalidih je kronična okvara njihovega zdravja, ki je tudi formalno priznana s stopnjo invalidnosti. Ekonomski dejavniki so poleg bolezni najpomembnejši dejavniki tveganja za prezentizem pri invalidih. Iz rezultatov je mogoče sklepati, da delovna mesta invalidnim delavcem niso prilagojena v tolikšni meri, da bi povsem ustrezala njihovim omejitvam zaradi bolezni.

1 INTRODUCTION

The assessment of workers' health is usually carried out by the following indicators: injuries at work, occupational diseases, sick leave and disability. Most frequently, sick leave is used, which represents temporary absence from work due to disease and/or injury (1). However, in 2000 a new phenomenon defined as sickness presence started to be researched. Sickness presence is the presence of workers at work when they feel so sick that they could be on sick leave (2-6). The data on sick leave show that 30-40% of employees were not on sick leave during a one-year period observed (7, 8). A varied group ranging from employees who are actually healthy and do not have any health-related problems to those who feel sick but work nevertheless belong to this group. The latter are supposed to have a lower social status, fixed-term employment or are threatened with dismissal from work, more demanding and responsible work, can arrange work by themselves and those who have low possibility of replacement at work (2, 3, 6, 8-11). The researchers estimate that there are higher odds for sickness presence in educational and medical institutions (2, 8). It is described that the level of sickness presence among health care professionals is associated with time pressure (8, 9, 12, 13), lack of personnel or the inability to replace a co-worker at work (8, 12), work experience and (dis)satisfaction with work (13).

Permanent damage to health and the resulting inability to work are called work-related disability (hereafter referred to as disability), which is recognized by law if the chances of the insured person to get or retain his/her workplace and to advance professionally are decreased due to the changes in his/her health status that cannot be reversed by means of treatment or medical rehabilitation (14). If the worker was classified into disability category II or III in the process of establishing disability, the remaining workability was assessed, which means that he/she can be employed in another workplace that suits his/her level of education or he/she can undergo the process of occupational rehabilitation resulting in full-time work in another workplace or else he/she can do particular work at least part-time (14). Formally, the law protects disabled workers and requires that the employer is obliged to adapt the workplace to suit the limitations of the disabled in order to prevent further damage to their health (15, 16). There are no data on how successful the return of workers to a suitably adapted working environment is and to what extent such relocations of disabled people actually prevent damage to their health.

The available literature does not provide data on the extent of sickness presence among the disabled, which would indirectly show the suitability of the workplaces adapted for the disabled. Therefore, aiming at providing scientific evidence for focused preventive occupational medicine actions in the sub-population of disabled workers, the objective of our study was to assess the prevalence of sickness presence among disabled workers at the University Medical Centre Ljubljana (UMC Ljubljana).

2 METHODS

The study was designed as a cross-sectional study.

2.1 Participants

Out of 5865 health care professionals who were in a continuous employment relationship at the UMC Ljubljana in the period between 1 January 2010 and 31 December 2010, the following employees were excluded: those who were on sick leave and/or maternity leave for more than six months, all those who were employed at the UMC Ljubljana for fewer than twelve months in the observed period and those employed in technical services. In the remaining group of health care professionals, all the disabled workers were selected, totaling 389.

The study included the following groups of employees classified as being disabled: employees who were assessed by the Invalidity Committee of the Pension and Disability Insurance Institute of the Republic of Slovenia as "the disabled of category II" if their workability for their occupation was decreased by 50% or more or as "the disabled of category III" if they were no longer able to work full-time with or without prior occupational rehabilitation but could carry out certain work at least part-time or if their workability for their occupation was decreased by less than 50% or if they could still work in their profession full-time but were not capable of working in the workplace to which they were assigned (14).

2.2 Observed phenomenon

The observed phenomenon was sickness presence. In our study, the sickness present were defined as the disabled workers who were present at work at least two or more times in 2010 when they felt sick and the non-sickness present were defined as the disabled workers who were never or who were present at work at most once when they felt sick (2).

2.3 Research tools and course of study

For the purpose of our study, a questionnaire was prepared consisting of 57 questions taken from three international standardized and validated questionnaires (2, 17-20). The questionnaire contained questions related to demographic factors (sex, age, education, children, smoking, recreation, net salary, some important life events such as death of next of kin or friend, independence of a child, disease of next of kin, change in the workplace, change in the employment status of a partner, loan, change of a flat, holidays), factors connected with work (workplace, psychical and physical workload, shift work), psycho-social factors (creativity, possibility of education, influence on work organization, superiors' and co-workers' support, time pressure, possibility of replacement, lower salary when on sick leave), factors that describe health status (diseases by groups by organ systems) and factors that describe one's own assessment of workability (sickness absence, barriers

and work impairment, anticipated certainty about one’s own workability in the following year).

The questionnaires were distributed to all disabled workers at the UMC Ljubljana in the second half of January 2011 with the help of senior nursing officers. We enclosed an envelope for the answer and a cover letter. The questionnaires were numbered by means of codes. Informed consent was signed by all participants who answered the questionnaire. Sealed envelopes with answered questionnaires were collected in special boxes by senior nursing officers and the couriers took them to the Clinical Institute of Occupational, Traffic and Sports Medicine (CIOTSM). The participants could also return them by themselves to the CIOTSM. The Organ of the UMC Ljubljana, No. 2, 2011, published an article describing the study and its aims in order to additionally encourage employees to answer the questionnaire. All those whose answers had not been received by the end of April 2011 were sent the questionnaires once again in May 2011 together with a request to answer them.

2.4 Statistical analysis

Besides descriptive statistical methods, the statistical analysis also used the methods for the analysis of the association of sickness presence with the selected risk factors for sickness presence: sex (male, female), age (50 years or more, less than 50 years), education (secondary or less, higher or university), children (no, yes), smokers (no, yes), net salary < EUR 1000 (no, yes), death of next of kin or friend (no, yes), disease of next of kin (no, yes), work (health care professionals, managerial or administrative work), working life (20 years or more, fewer than 20 years), high psychical workload (no, yes), high physical workload (no, yes), night work (no, yes), no possibility of education (no, yes), low superiors’ support (no, yes), low co-workers’ support (no, yes), time pressure (no, yes), dissatisfaction at work (no, yes), poor self-rated health (no, yes), musculoskeletal disorders (no, yes), cardiovascular

diseases (no, yes), respiratory diseases (no, yes), mental and behavioral disorders (no, yes), gastrointestinal diseases (no, yes), endocrine diseases (no, yes), chronic diseases (no, yes), no possibility of replacement (no, yes), lower salary when on sick leave (no, yes), on sick leave $\geq$ twice (no, yes), work impairment (no, yes) and not sure about workability next year (no, yes). Logistic regression was chosen as univariate as well as multivariate analysis. The multivariate model included all the variables that were in a statistically significant association with the dependent variable in the univariate model and that were considered the most sensible to be included in the multivariate model from a professional perspective.

The SPSS program, version 20.0, was used to perform the statistical analysis, which was carried out at the CIOTSM.

2.5 Ethical aspects of the study

The study was approved by the National Medical Ethics Committee of the Republic of Slovenia on 11 January 2011.

3 RESULTS

The questionnaire was answered in full by 248 health care professionals - disabled workers out of the total number of 389 disabled workers employed at the UMC Ljubljana (63.8%).

Among the 248 disabled workers, 183 were sickness present (73.8%) and 65 were non-sickness present (26.2%). Among the selected risk factors that were included in the univariate logistic regression, there was the strongest association between sickness presence and the presence of chronic disease and lower salary when on sick leave (Table 1).

Table 1. Estimates of sickness presence according to the selected risk factors among 248 disabled workers at the University Medical Centre Ljubljana, 2010, and the results of the univariate logistic regression.

Risk factor	Category	N _{SP}	(%)	OR	95 % CI limits		p
					Lower	Upper	
Sex	Male	9/16	56.3	1.00			
	Female	174/232	75.0	2.33	0.82	6.55	0.107
Age	50 years or more	84/115	73.0	1.00			
	Less than 50 years	99/133	74.4	1.10	0.61	1.89	0.804
Education	Higher or university	43/65	66.1	1.00			
	Secondary or less	145/183	79.2	2.77	1.48	4.99	0.001
Children	No	22/43	51.2	1.00			
	Yes	161/205	78.5	3.49	1.76	6.93	< 0.001
Smokers	No	119/170	70.0	1.00			
	Yes	64/78	82.1	1.96	1.01	3.81	0.047
Net salary < 1000 EUR	No	35/58	60.3	1.00			
	Yes	148/190	77.9	2.32	2.36	4.34	< 0.001
Death of next of kin or friend	No	124/177	70.1	1.00			
	Yes	59/71	83.1	2.10	1.05	4.22	0.037

Risk factor	Category	N _{sp}	(%)	OR	95 % CI limits		p
					Lower	Upper	
Disease of next of kin	No	155/216	71.8	1.00			
	Yes	28/32	87.5	2.76	0.93	8.18	0.068
Work	Managerial or administrative work	5/14	35.7	1.00			
	Health care professionals	60/169	35.5	1.01	0.35	2.92	0.991
Working life	Fewer than 20 years	165/216	76.4	1.00			
	20 years or more	18/32	56.3	2.50	1.16	5.56	0.018
High psychological workload	No	94/137	68.6	1.00			
	Yes	89/111	80.2	1.85	1.03	2.70	0.041
High physical workload	No	123/177	69.5	1.00			
	Yes	60/71	84.5	2.40	1.17	4.91	0.017
Night work	No	170/231	73.6	1.00			
	Yes	13/17	76.5	1.16	0.37	3.71	0.795
No possibility of education	No	94/139	67.6	1.00			
	Yes	89/109	81.7	2.13	1.17	3.89	< 0.001
Low superiors' support	No	124/176	70.5	1.00			
	Yes	59/72	81.9	1.90	0.96	3.77	0.064
Low co-workers' support	No	145/203	71.4	1.00			
	Yes	38/45	84.4	2.17	0.92	5.14	0.078
Time pressure	No	49/68	72.1	1.00			
	Yes	134/180	74.4	1.14	0.60	2.13	0.703
Dissatisfaction at work	No	123/180	68.3	1.00			
	Yes	60/68	88.2	3.48	1.56	7.75	0.002
Poor self-rated health	No	95/151	62.9	1.00			
	Yes	88/97	90.7	5.76	2.69	12.34	< 0.001
Musculoskeletal disorders	No	34/70	48.6	1.00			
	Yes	149/178	83.7	5.44	2.12	10.01	< 0.001
Cardiovascular diseases	No	95/149	63.8	1.00			
	Yes	88/99	88.9	4.55	2.24	9.25	<0.001
Respiratory diseases	No	119/173	68.8	1.00			
	Yes	64/75	85.3	2.64	1.29	5.40	0.008
Mental and behavioural disorders	No	40/81	49.4	1.00			
	Yes	143/167	85.6	6.11	3.31	11.28	< 0.001
Gastrointestinal diseases	No	123/175	70.3	1.00			
	Yes	60/73	82.2	1.95	0.98	3.86	0.055
Endocrine diseases	No	115/169	68.0	1.00			
	Yes	68/79	86.1	2.90	1.42	5.93	0.003
Chronic disease	No	11/62	17.7	1.00			
	Yes	172/186	92.5	56.96	24.36	133.17	< 0.001
No possibility of replacement	No	92/138	66.7	1.00			
	Yes	91/110	82.7	2.40	1.30	4.40	0.005
Lower salary when on sick leave	No	71/129	55.0	1.00			
	Yes	112/119	94.1	13.07	5.65	30.24	< 0.001
On sick leave $\geq$ twice	No	91/135	67.4	1.00			
	Yes	92/113	81.4	2.12	1.17	3.84	0.013
Work impairment	No	38/62	61.3	1.00			
	Yes	145/186	78.0	2.23	1.21	4.14	0.011
Not sure about work ability next year	No	84/135	62.2	1.00			
	Yes	99/113	87.6	4.29	2.22	8.30	< 0.001

Legend: N_{sp} = number of the disabled sickness present in the group; N_{cat} = number of the disabled in the category
Abbreviations: OR - odds ratio; CI - confidence interval

The results of the multivariate analysis are similar to those of the univariate analysis. The variables that had been statistically significant in the univariate analysis were also statistically significant in the multivariate analysis, namely chronic diseases (OR = 31.0, 95% CI 11.0-87.2; $p < 0.001$), lower salary when on sick leave (OR = 7.0, 95% CI 2.1-22.8; $p = 0.001$) and poor self-rated health (OR = 4.2, 95% CI 1.1-15.9; $p = 0.035$).

4 DISCUSSION

To our knowledge, this is the first study to deal with sickness presence in the disabled. The response of the disabled workers was higher than that of all health care professionals, amounting to 57.6% (21). The share of sickness present disabled workers was larger than we could have expected in comparison to the results of the studies among health care professionals and among public employees, where the share of sickness present ranges between 18% and 65% (2-5, 12, 21). The share was higher than expected especially because the operative part of the decision of the invalidity commission that relieves the workers of some of the work enables the disabled to carry out work in accordance with their remaining psychophysical abilities and consequently they are not supposed to "work when sick". The observed groups of the disabled of invalidity categories II and III, including both sickness present and non-sickness present, do not differ in terms of sex and age, but they do differ in the following characteristics: disabled workers - sickness present with chronic diseases have higher odds for sickness presence in comparison with disabled workers - non-sickness present. They primarily suffer from mental and behavioral as well as musculoskeletal disorders. When they are really sick, people start to behave differently due to the following reasons: the changed economic circumstances together with the economic crisis after 2009 and a decreased likelihood of permanent employment with the possibility of dismissal and a decrease in salary during sick leave. A significant decrease in sick leave was observed in the area of mental and behavioral disorders at the level of the entire state, and we believe that it is this decrease that indicates sickness presence (22). Mental and behavioral disorders have also been presented in other studies as one of the main causes of sickness presence (23, 24). Disabled workers - sickness present enumerate more medical conditions than disabled workers - non-sickness present, and, consequently, they experience their health as poor and they are on sick leave more often. Despite the fact that the disabled workers should be assigned to a suitable workplace due to chronic damage to health, they often say they work while sick. Indirectly, a question can be posed whether the workplace is really suitable as regards the disability assessment (25). A new workplace should suit the worker's remaining psychophysical abilities. Sickness present disabled workers report higher physical and psychical workloads than disabled workers - non-sickness present. Contrary to expectations, they also have to replace their co-workers more often than disabled workers - non-sickness present, although their invalidity status prohibits that explicitly.

Disabled workers - sickness present belong to the socially weaker class with a lower level of education and lower salaries, and they are mostly smokers. Besides chronic diseases among disabled workers - sickness present, fear of lower salary shows the highest odds for sickness presence. They perceive themselves as being dissatisfied with work. Since they are dissatisfied with work, their availability for work is low and consequently their productivity decreases (26). Disabled workers - sickness present are supported neither by their superiors nor by their co-workers. Disabled workers - sickness present claim that their chances for education are slimmer. Since they have a lower level of education than disabled workers - non-sickness present, additional education for them means at best secondary education, which is sufficient only for physically demanding work in the health sector. Disabled workers - sickness present mostly suffer from musculoskeletal disorders, which is why physical work is not suitable for them, and, consequently, such additional education does not represent a solution to this problem. We should, however, not ignore the fact that disabled workers - sickness present assess their health as poor, which is an additional reason why they do not have motivation for additional education (25, 27).

Despite the fact that the responsiveness of the participants was good and comparable to other studies on sickness presence, this study has its limitations. The test subjects took part in research on a voluntary basis, which is why not all the disabled workers were included, but their response was better than that of all health care professionals. It is possible that they have problems and as is generally well-known, people with problems respond more often than those without problems. As regards the circumstances in Slovenia, the response was good, and we cannot find any reason why less than 40% of the non-respondents could be considered so different from the respondents that the results of this study cannot be evaluated as reliable.

This study is important for occupational medicine, because it poses two questions and expects occupational medicine to answer them. The first question concerns the importance of sickness presence as the possible new indicator of workers' health, and the second question concerns the suitability of the workplaces that have already been adapted; the second more indirect question addresses the suitability of determining workability in the course of the invalidity procedure. Further research should be aimed at the question of what kind of risk sickness presence represents for future health and disability.

5 CONCLUSION

Disabled workers represent a large group among employed health care professionals. Among them, the sickness present represents the majority despite the fact that all disabled workers with a formal invalidity decision are relieved of some work in accordance with their diagnosis. It is obvious that besides chronic diseases, economic risk factors represent the greatest risk for sickness presence among disabled workers. It would therefore be sensible to invest money in work-oriented rehabilitation and re-

training of the disabled in such a way as to increase their chances of employment in a suitable workplace that would be adapted to their specific needs. This is how their economic vulnerability would be decreased. Presently, the disabled workers as well as employers are not particularly motivated towards education. Disabled workers of category II or III frequently become disabled workers of category I and thus a burden on the Pension and Disability Insurance Institute; they can even become unemployed, which represents an even greater risk for the deterioration of their health status.

CONFLICT OF INTEREST

The authors declare that no conflict of interest exist.

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ETHICAL APPROVAL

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