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Research Article

Association of Sociodemographic Factors and Prolonged Recovery Time from Work Disability in Patients with Cervical Sprain in Obregon City, Mexico

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Abstract

Background: Work disability is a medical certification that considers both physical factors and psychophysical conditions of the worker and work conditions. Exceeding the recovery time means a prolonged disability. The most frequent pathologies that incapacitate are cervical injuries (30%), with cervical sprain being the most common.

Objective: To determine the association between sociodemographic factors and prolonged time of recovery from disability in patients with a diagnosis of cervical sprain grade 1 and 2 in Obregon City, Mexico.

Methods: An analytic cross-sectional study was conducted in the family medicine unit 1 from Obregon City, Mexico. Medical records of 376 disabled workers due to grade 1 and 2 cervical sprain were reviewed. In the bivariate analysis, odds ratio and Chi-Square with a confidence interval of 95% was implemented, a p <0.05 was considered significant

Results: Of the 376 disabilities due to general illness, 144(46.6%) were prolonged and 165(53.4%) not prolonged. In disabilities for work risk, 44(65.7%) were prolonged and 23(34.3%) not prolonged, this difference was significative (p=0.005).

Conclusions: The variable more associated with prolonged disability wastype of disability (work risk).

Keywords: Cervical sprain; Disability for work; Risk factors

Introduction

Work disability is a medical certification that considers both physical factors and psychophysical conditions of the worker and work condition. Exceeding the recovery time in the natural period of the disease, means a prolonged disability starting from a determined optimal time. The certification provides to the disabled worker access to economic subsidies while their health improves. The most frequent pathologies that incapacitate are cervical injuries, which represent 30% of spinal injuries, with cervical sprain being the most common. Most of the days of disability are prescribed in family medicine units (56.2%) [1]. It's difficult to compare the average times of disability with other countries because the administrative criteria are highly variable in each country. There are multiple factors that influence the prolonged prescription of work disability, such as job dissatisfaction, socio-family problems, prolonged unemployment, child care, difficulty in accessing the second or third level of care, age, sex, the type of disability and marital status [2,3].

Cervicalgia is considered the fourth disabling pain worldwide, and the most frequent is cervical sprain, which is described as an organic and emotional sensation, it is usually a referred pain and experienced in each patient in a different way. The prevalence of neck pain due to cervical sprain estimated in the population is 37%, although the results vary according to epidemiological studies [4,5]. The cervical sprain is the result of a combined injury between extension - flexion of the soft tissues of the cervical spine and is the most frequent cause of neck pain, it is commonly caused by road accidents or other factors, for example; injuries from assaults, fights, sports or falls. There are multiple studies that relate non-mechanical factors with a poor prognosis for cervical sprain, these factors are: female sex, advanced age, history of psychiatric pathology, low level of education and higher levels of somatization. During the work activity, all workers are exposed to risks, accidents or illnesses, which can cause damage, and in some cases can lead to situations of prolonged disability, providing access to economic subsidies while the health of the worker improves [6,7].

In reference to the expected optimal recovery time due to this disability, the occupational medicine service takes as a reference the moderate-heavy optimal expected time, that is, if the patient has a relatively light or very heavy job, they take 21 days as a reference. In the case of cervical sprain, the probable recovery time is obtained by the Mexican clinical practice guidelines, which establish the recovery average for each disease, according to the statistics of maximum recovery time, seen regularly in each pathology [8,10]. It is important to remember that the fundamental purpose of medical care is to restore health, optimize functional ability, and minimize the destructive impact of injury or disease on the patient's life. Prolonged absence from normal activities, including paid work, is detrimental

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to physical, mental, and social well-being. Physicians frequently face complex situations when objectifying the real existence of pain and the alterations associated with cervical sprain that patients manifest, causing an underestimation or lack of clinical correlation [11,12]. The main objective of this investigation was to determine the association of sociodemographic factors and prolonged recovery time from work disability in patients with cervical sprain in Obregon City, Mexico

Material and Methods

An observational, cross-sectional study was carried out in Obregon City, Mexico, between October 2020 and November 2021. The research was carried out in the family medicine unit number 1 (UMF 1) of the Instituto Mexicano del Seguro Social (IMSS). A database was created, in which all patients diagnosed with cervical sprain grade 1 and 2 of the family medicine unit were included. The participants were workers between 20 and 55 years, with general illness or work risks according to the case. Patients with incomplete records of the variables required in the study were eliminated. The collection of variables was done with a standardized data form; the variables collected were: age, gender, and marital status, and occupation, type of disability according to the type of incidence, work type, schooling and number of jobs.

Statistic Analysis

Once the information was collected, the analysis was carried out using the SPSS version 21. Descriptive statistics were used, the qualitative variables were expressed as frequencies and percentages, and the quantitative variables as measures of central tendency and dispersion. In the inferential analysis, the non-parametric chi-square test was used for categorical variables and odds ratio for risk. The results were evaluated in a confidence interval of 95%, a value of p <0.05 was considered as significant.

Ethics

The study was approved by the local health research and ethics committee; with registration number R-2020-2603-052. The research was carried out under the General Health Law on Health Research, the declaration of Helsinki and Bioethical Principles.

Results

A sample of 376 was analyzed, of which 188 have prolonged work disability corresponding to the cases and 188 without prolonged disability corresponding to the control group. In gender, 84 (52.5%) male patients had prolonged disability and 76 (47.5%) had non-prolonged disability. Compared to women, 104 (48.1%) with prolonged disability and 112 (51.9%) with non-prolonged disability were registered. No statistics differences were obtained in this variable (OR 1.1, CI 95% 0.7-1.7, p0.40).

In marital status, those who had a partner, 71 (47.7%) male patients had prolonged disability and 78 (52.3%) with non-prolonged. In single patients, 117 (51.5%) had prolonged disability and 110 (48.5%) non-prolonged. (p=0.460) and an OR .856 (CI .566-1.294) were obtained. No statistics differences were obtained in this variable (OR 0.8, CI 95% 0.5-1.2, p 0.46). In occupation, 84 (50.6%) patients had prolonged disability and 82 (49.4%) non-prolonged disability in the intellectual type occupation, on the other hand, those occupation who required physical effort, 104 (49.5%) with prolonged disability and 106 (50.5%) non-prolonged. No statistics differences were obtained in this variable (OR 1.0, CI 95% 0.6-1.5, p 0.83).

Table 1: Associated factors to prolonged disability in cervical sprain.

Prolonged disability				
Variable	Yes	No	OR (CI 95%)	*p*
Sex				
Male	84 (52.5%)	76 (47.5%)	1.1 (0.7-1.7)	0.40
Female	104 (48.1%)	112 (51.9%)		
Marital status				
Withpartner	71 (47.7%)	78 (52.3%)	0.8 (0.5-1.2	0.46
No partner	117 (51.5%)	110 (48.5%)		
Occupation				
Intelectual	84 (50.6%)	82 (49.4%)	1.0 (0.6-1.5)	0.83
Physical	104 (49.5%)	106 (50.5%)		
Type of disability				
General illness	144 (46.6%)	165 (53.4%)	0.45 (0.2-0.7)	0.005
Workrisk	44 (65.7%)	23 (34.3%)		
Schooling				
Basic	152 (52.2%)	139 (47.8%)	1.4 (0.9-2.4)	0.10
Professional	36 (42.4%)	49 (57.6%)		
Workhours				
Morning	57 (49.6%)	58 (50.4%)	0.9 (0.6-1.5)	0.91
Evening	131 (50.2%)	130 (49.8%)		
Nutritional status				
Normal weight	80 (47.3%)	89 (52.7%)	--	
Overweight	58 (50.9%)	56 (49.1%)		0.78
Obesity 1	48 (53.9%)	41 (46.1%)		
Obesity 2	2 (50%)	2 (50%)		
Age				
18 – 30 years	61 (57.5%)	45 (42.5%)	1.5 (0.9-2.4)	0.06
> 30 years	127 (47%)	143 (53%)		
OR= Odds ratio, p= Pearson X^2, CI 95%= confidence interval				

In the type of work disability, due to general illness, 144 (46.6%) patients had prolonged disability and 165 (53.4%) non-prolonged; and those who were due to work risk, 44 (65.7%) with prolonged disability and 23 (34.3%) non-prolonged.(p=0.005) and an OR .456 (CI .263-.792) were obtained. Statistics differences were obtained in this variable (OR 0.4, CI 95% 0.2-0.7, p 0.005). In scholarship, patients with basic studies, 152 (52.2%) had prolonged disability and 139 (47.8%) non-prolonged; and patients with professional schooling, 36 (42.4%) had prolonged disability and 49 (57.6%) non-prolonged. No statistics differences were obtained in this variable (OR 1.4, CI 95% 0.9-2.4, p 0.109).

In working hours, patients who works at the morning, 57 (49.6%) had prolonged disability and 58 (50.4%) non-prolonged disability, on the other hand, those with evening hours, 131 (50.2%) had prolonged disability and 130 (49.8%) non-prolonged. No statistics differences were obtained in this variable (OR 0.9, CI 95% 0.6-1.5, p 0.91). In the analysis of association according to the degree of obesity

with prolonged disability, we found that 80 (47.3%) of the patients with normal weight had prolonged disability and 89 (52.7%) non-prolonged; from the overweight group, 58 (50.9%) had prolonged disability and 56 (49.1%) not prolonged; in grade one obesity, 48 (53.9%) presented prolonged disability and 41 (46.1%) not prolonged; second degree, 2 (50%) patients had prolonged disability and 2 (50%) non-prolonged. No statistics differences were obtained in this variable (p 0.78). In age, according to young people (18-30 years), 61 (57.5%) patients had prolonged disability and 45 (42.5%) non-prolonged; adults (> 30 years), 127 (47%) had prolonged disability and 143 (53%) non-prolonged disability. No statistics differences were obtained in this variable (OR 1.5, CI 95% 0.9-2.4, p 0.06).

Discussion and Conclusion

According to the data obtained on the sociodemographic factors associated with prolonged disability, we found that in gender, there is a similar percentage in both men and women, however, there are more cases of cervical disability in women. It was also observed that there is a greater prolongation in disabilities due to work risk, this may be due to the monetary perception. According to age, marital status, type of occupation, schooling, work hours and degree of obesity, there is no difference in the duration of recovery time, so the prolongation of disability is not dependent on these factors. We were able to demonstrate a difference between the type of disability, since its prolongation was greater in occupational risk than in general illness [13-15].

According to the data obtained, we found that there are a greater number of disabilities in women and that the prolongation of these is greater in the modality due to work risk [16-18]. During our professional work, we tend to focus on the purely cervical aspects of the sprain, leaving aside the comprehensive assessment of the patient, and as we can see, there are a wide variety of factors that can go completely unnoticed and that on many occasions are more important than the own cervical symptoms. Carrying out actions focused on the orientation and prevention of diseases allows us to reduce the economic impact both for the beneficiary and for health services, especially in the primary care sector, helping us with the optimization of resources and increasing the quality of life of patients.

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