Low Back Pain and Disability: A Descriptive Study from Iran

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A B S T R A C T

Aim: Back pain is a common disabling chronic problem that burdens individuals, families and societies. Chronic Low Back Pain (CLBP) has a significant effect on functional status and limiting work activity. This study aimed to assess the status of CLBP and disability among individuals who referred to Zanjan University of Medical Sciences (ZUMS).
Methods and Materials: This descriptive study was performed on individuals with CLBP who referred to the teaching hospitals of ZUMS. In this study, the demographic questionnaire and the Oswestry Lumbar Disability Questionnaire were used to collect information to assess disability and change in life activities. The questionnaire of Van Korf et al. was used to measure pain intensity with Numerical Pain Rate (NPR). Finally, the data were entered into SPSS software version 26 and statistical analysis was performed in frequency / percentage.
Findings: Totally 238 individuals including 159 (66.8) women with a mean age of (40.06±13.22) and 79 (33.2) men with a mean age of (35.56±16.12) participated in the study completed the questionnaires. According to the results, 56.3% (N=) of participants have disabilities and 34.5% (N=) have low disabilities.

Keywords: Disability –Severity Low Back Pain- Medical Sciences University – Descriptive Study

Introduction

Back pain is one of the most common injuries that many people suffer from it around the world. Back pain means pain, stretching or stiffness of the muscles between the lower ribs and the top of the lower gluteal folds that can be with or without sciatica [1]. Back pain-related injuries have the highest prevalence which, in addition to the health aspects, has also economic impacts on suffered individuals[2]. Although this complication usually begins with a mild pain, sometimes the pain gradually becomes so severe some people become feet - paralyzed as the disease progresses[3].

Most back pain seems to be caused by lifting heavy objects and resulting in joint injuries or soft tissue disorders. These injuries are usually caused by weak bone structure, impaired flexibility, changes in muscle tone and decreased strength, and become more common with old age. other factors such as recurrent beatings, incorrect postures, and non-mechanical factors such as metabolic diseases, pathological, infectious, and neurological lesions have also been reported[3].

Many MusculoSkeletal Disorders (MSDs) start in middle-age and require interactions with health care providers over many years [4]. Low Back Pain (LBP), is a leading cause of activity limitation, work absenteeism and lost productivity throughout much of the industrialized countries which threatening function, mental health and Quality of Life (QoL) [5] and inflicting substantial direct and

indirect costs on health, social and economic systems[6]. Globally back pain causes more disability than any other condition. The 2010 Global Burden of Disease Study ranked LBP as the condition with the highest number of Years Lived with Disabilities (YLDs) and sixth in terms of Disability-Adjusted Life Years (DALYs)[5].

In 1990, the global burden of YLDs due to back pain in adults aged 50–69 was 59% in developing countries, but by 2010 this proportion increased to 67% [7]. With rapid growth in the numbers and proportions of older adults in low- and middle-income countries (LMICs) the back pain burden in older adults in these countries is expected to increase significantly in coming decades[5]. Back pain is also one of the most common conditions for which patients in high-income countries seek medical care [8]. Most of the information about back pain has come from developed countries in Europe, North American and Australasia, making it difficult to draw comparisons with developing countries [9]. Italian researchers reported back pain prevalence of 32% in adults aged over 65 years [10] and a study of community-dwelling adults aged 70–79 years in the United States (US) demonstrated back pain prevalence of 36%. A review of the prevalence of musculoskeletal conditions in adults aged 60 and over in developed countries reported one-month back pain prevalence between 18% and 29%[11] The Jerusalem Longitudinal study[12] showed that chronic back pain was prevalent in the elderly (aged 70 years and over) [13]. This study added psychosocial factors, female gender and hypertension were associated with back pain. Association between back pain and older age is also heavily modified by the severity and intensity of the complaint [13]. Studies conducted in North America,[14] Europe, [8] and Australasia [11] found that

the prevalence and intensity of back pain is associated with individual, psychosocial and occupational factors. In addition to being older and female[15], modifiable determinants of back pain in developed countries include smoking, depression, lack of physical activity and abdominal obesity[16]. A Japanese study of men aged 40 years and older demonstrated that back pain had a significant negative impact on Qol[17]. European studies provide evidence of inverse association between back pain and socioeconomic factors, such as older age, higher income and education[18].

Although a few studies investigating the determinants of back pain have been conducted in developing countries, the literature is sparse compared with developed countries. In a community-based study of adults in Korea (mean age 56 years), the common determinants were advancing age and female sex[19]. Studies conducted in Taiwan [20], China[21] and Sri Lanka[22] have focused on working-age populations. A review of back pain prevalence studies conducted in Sub-Saharan Africa on mostly working-age adults and adolescents, concluded that back pain prevalence was rising [15]. The perception and reporting of back pain is influenced by individual characteristics, working conditions, lifestyle, and social, economic, cultural and ethnic factors, as well as the availability of treatment and rehabilitation options [4]. In some societies and countries there is a greater awareness of the symptoms and also a greater willingness to report them, while in others, back pain is not necessarily associated with disability, but rather seen as a natural consequence of routine physical work or the ageing process itself [6]. Because of these challenges, this study aimed to assess the status of CLBP and disability among individuals who referred

to Zanjan University of Medical Sciences (ZUMS).

Method and Materials

This descriptive study was conducted among Individuals with CLBP who referred to the teaching hospitals of ZUMS. The eligible subjects were entered into this study after being informed about the aim of the study. After obtaining the signed consent of the participants, the questionnaires were sent to the participants via e-mail or by a trained person residing in the clinics. In case of any questions about the questionnaire, the necessary information was provided to the research samples. Those who received the questionnaire by e-mail were tracked by telephone to collect the questionnaires. Oswestry low back pain disability questionnaire was used to assess the inability to perform daily activities. Ten sections of this questionnaire including: ability to take care of oneself, lifting objects, sitting, standing, walking, sleeping, having sex, travelling, social life and pain severity were were completed by the respondents. Each section had one question with 6 answer options which scored from 0 to 5 by which the participant was able to choose or score independently for his/her own disability. Total disability score of each participant was between 0 and 50 that was converted to standard score of 0 to 100. The Oswestry Pain Disability Questionnaire was also examined in a previous study [23]. Residency Van Korf questionnaire (Numerical Pain Scale Questionnaire) was used to measure pain intensity with Numerical Pain Rate (NPR) It included 7 questions, each of which was rated from 0 to 10. The person was able to choose one of the options from 0 to 10 based on the severity of the pain according to the question. The validity and reliability of the pain intensity questionnaire were confirmed by Van Korf et al. To determine the severity of low back pain with the NPR's pain scale in the previous study[24]. All participants entered the study were satisfied to be studied after explaining the objectives and procedures of the study. It was emphasized that completing this questionnaire will not take more than 10 minutes. After assigning the appropriate codes, the data were entered into SPSS software and analyzed. In descriptive statistics, for continuous quantitative data, mean and standard deviation, and for qualitative and nominal data, the frequency / percent was reported in the tables.

Findings

Totally 238 individuals including 159 (66.8%) women with a mean age of (40.06±13.22) and 79(33.2%) men with a mean age of(35.56±16.12) participated in the study and completed the questionnaires. Table 1 shows the rest demographic characteristics of them. According to the results of Table 1, most of the studied participants were women, married, having 0 to 2 children, having a moderate economic status and lived in the unbn area.

Table 2. shows results from the Oswestry low back pain disability questionnaire. According to the results of this Table, 53.8% of surveyed participants could take care of themselves without pain. The other disability findings are obvious in this Table.According the results of this study, 56.3% (N=134) of the subjects had no disability and 34.5% (N=82) had low disability.

Table 3. shows the results of Van Kurf questionnaire, According to Table 4, 42% (N=) of participants currently had mild pain.

Table 1) Demographic characteristics of the participants

Variables	Mean	Standard Deviation
Age (year)		
Male	35.56	16.12
Female	40.06	13.22
Non parametric variable	**Number**	**Percent (%)**
Gender		
Female	159	66.8
Male	79	33.2
Number of children		
0-2	199	83.6
3-5	33	13.9
6-8	3	1.3
9-11	2	0.8
≥12	1	0.4
Habitat		
Rural	5	2.1
Urban	233	97.9
Economic Status		
Good	83	34.9
Medium	148	62.2
Weak	7	2.9
Marital status		
single	90	37.8
Married	144	60.5
Other	4	1.7

Table 2) Response to Oswestry low back pain disability questionnaire

Sections \ Options	No disability	Very low disability	Low disability	Moderate disability	Sever disability	Full disability
Personal care	128 (53.8%)	56 (23.5%)	35 (14.7%)	11 (4.6%)	4 (1.7%)	4 (1.7%)
Lifting	60 (25.2%)	108 (45.4%)	25 (10.5%)	18 (7.5%)	23 (9.7%)	4 (1.7%)
Walking	129 (55.1%)	70 (29.9%)	15 (6.4%)	8 (3.4%)	8 (3.4%)	4 (1.8%)
Sitting	61 (25.6%)	116 (48.7%)	39 (16.4%)	16 (6.7%)	5 (2.1%)	1 (0.4%)
Standing	47 (20.0%)	90 (38.3%)	50 (21.3%)	30 (12.8%)	14 (6.0%)	4 (1.7%)
Sleeping	102 (42.9%)	109 (45.8%)	15 (6.3%)	5 (2.1%)	5 (2.1%)	2 (0.8%)
Sexual contact	90 (50.3%)	60 (33.5%)	10 (5.7%)	9 (5.0%)	6 (3.4%)	4 (2.2%)
Social life	82 (34.5%)	107 (45.0%)	26 (10.9%)	18 (7.6%)	4 (1.6%)	1 (0.4%)
Traveling	89 (37.6%)	122 (51.5%)	16 (6.7%)	4 (1.7%)	1 (0.4%)	5 (2.1%)
Intensity of Pain	91 (33.6%)	70 (25.8%)	28 (10.3%)	44 (16.2%)	3 (1.1%)	2 (0.7%)

Table 3) Response to pain severity based on Numerical Pain Rate (NPR) questionnaire

Question \ Scale	No pain	1	2	3	4	5	6	7	8	9	Very sever pain
!st Question	(25.6%) 61	(12.6%) 30	(15.5%) 37	(13.9%) 33	(6.7%) 16	(5.0%) 12	(12.6%) 30	(5.9%) 14	(1.3%) 3	(0.0%) 0	(0.8%) 2
2end Question	(4.6%) 11	(9.2%) 22	(13.0%) 31	(12.2%) 29	(9.2%) 22	(12.2%) 29	(8.0%) 19	(9.2%) 22	(14.3%) 34	(3.8%) 9	(4.2%) 10
3rd Question	(8.8%) 21	(11.8%) 28	(17.2%) 41	(9.7%) 23	(13.4%) 32	(13.0%) 31	(12.6%) 30	(6.3%) 15	(4.6%) 11	(1.7%) 4	(0.8%) 2
4th Question	(18.5%) 44	(18.9%) 45	(9.7%) 23	(15.1%) 36	(10.5%) 25	(9.7%) 23	(8.4%) 20	(4.2%) 10	(2.9%) 7	(0.8%) 2	(1.3%) 3
5th Question	(29.8%) 71	(16.4%) 39	(10.5%) 25	(13.9%) 33	(5.9%) 14	(7.6%) 18	(8.4%) 20	(4.2%) 10	(0.4%) 1	(1.7%) 4	(1.3%) 3
6th Question	(20.6%) 49	(17.6%) 42	(14.3%) 34	(8.0%) 19	(9.2%) 22	(7.1%) 17	(10.9%) 26	(4.2%) 10	(4.2%) 10	(1.3%) 3	(2.5%) 6

Days 7th Question	0-6 (79.4%) 189	7-14 (10.9%) 26	15-30 (8.0%) 19	=/> 30 (1.7%) 4

Discussion

This study was performed to investigate the relationship between CLBP and the degree of disability. The present study was a descriptive study that shows that participants with back pain had problems and disabilities in terms of sleeping, sitting, standing, walking, as well as lifting objects. Various studies have shown that musculoskeletal pain can causes different disabilities during daily activities , and that daily activities such as standing and walking, lifting objects off the floor, sleeping, lying down, and improper furniture can damage musculoskeletal systems[25, 26]. In the study of Mazloum et al. In 2005, it was concluded that lifting heavy objects in 44.7% and not complying with correct position of the spine in 18.4% of the subjects caused LBP[27]. A study by Lu JLP on the risk factors for LBP was also conducted in 2003 in the Philippines on 495 randomly selected factory workers. This study found that getting in an awkward position while carrying objects for 2 to 8 hours and standing up for 2 to 8 hours in work places were risk factors for back pain. This study also added that participants who had to lift objects heavier than 25 lbs. in their workplace or had to bend frequently were 3.8 times and 3 times more likely to suffer from LBP, respectively [28]. This study showed that the rate of low back pain and disability in the study population is high Therefore, according to the recommendations of previous studies, skills training of right position maintenance of spine can play a very effective role in reducing disability. The most important strength of this study is the large sample size and sampling from the different clinics of ZUMS, which helps the accuracy of the results. One of the weaknesses of this study is the information bias of pain and disability because of self-reporting data collection .Thus it is recommended in future studies objective measurements be used.

Conclusion

This study showed the rate of low back pain and disability in the studied population .However, implementing more descriptive and causative researches in future to verify this result and to design proper interventional study is recommended.

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