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Low Back Pain, Disability and Quality of Life among University Students

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Background: Back pain is one of difficulties in communities that has negative effect on various aspect of life. The purpose of this study is to assess the aspects of life quality and its relationship with disability due to low back pain among students.

Methods and Material: In this cross-sectional descriptive study, 200 eligible students were enrolled through purposive available sampling. Data was obtained based on demographic data questionnaire, the Roland-Morris Disability Questionnaire and SF-36 inventory. All data were entered into SPSS version 19 and analyzed.

Results: Results of this study showed that 60.3 percent (114 people) of students were living with low back pain. Based on Roland-Morris disability questionnaire, 80 percent (91 people) of those with low back pain were suffered from disability. The chi-square test showed there was a significant relationship between quality of life (QOL) (mental health and social function) and disability due to low back pain,. It also was shown that indirect relationship between all aspects of QOL and disability due to low back pain was existed.

Conclusion: This study indicated low back pain could affect not only on students' physical aspects of quality of life but also psychological and social aspects of quality of life could be decreased. Considering these effects of low back pain among students, multidimensional interventions regarding bio- psychosocial dimensions recommended to improve the quality of life of this target group.

Keywords: Back pain, Disability, University student, Quality of Life, SF-36

Introduction

Although development of science and technology has had to numerous advantages worldwide but it has brought many serious difficulties including physical inactivity and physical abnormalities (Bahrololum & Baloochi, 2006). Physical health is very important, so its positive and negative changes can affect various aspects of human life and society (Janwantanakul et al., 2011). Mechanical life and physical inactivity is one of the factors that cause vulnerability to back pain. After headache, back pain is one of the most common problems in today's society. Back pain is the most common cause of absence from work after upper respiratory tract infection (Chen, 2003). Most people who suffer from this pain during their life face with main physical and mental problems (Tavafian et al., 2007) such as reducing physical, mental and social functions, reduced general health and constant pain (Claiborne et al., 2002) which leads to a reduction in the quality of life (Turk et al., 2001). The function of the lumbar spine is essential in almost all activities of daily living. Strength and overall fitness of the spine is very important, because the speed of rehabilitation or lasting low back pain depends on fitness and biomechanical characteristics (Birch BB et al., 2015). People living with chronic illnesses such as back pain, not only face physical effects, but also the psychological effects (Nedjat et al., 2006). Therefore, in general, it can be pointed out that back pain affects all aspects of life leading to lowers quality of life (Talati et al., 2015). Therefore, what is important in the treatment and care of chronic diseases such as back pain, in addition to disease

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control, is improving the quality of life and issues such as social restrictions, physical and health problems caused by back pain that are QOL assessment factors as well as discovering other difficulties related to QOL which is helpful in the treatment process (Mostafazade et al., 2005). According to available figures, Iran is a young country and a large part of its population consists of young people and teenagers. This group is exposed to high stress due to age and social position (Mostafazade et al., 2005). It is known that stress can also lead to physical and mental diseases, malfunctions and power adjustment and ultimately lower quality of life of students (Gammon & Morgan-Samuel, 2005, Ryan & Twibell, 2000). Chronic back pain may cause greater disability and poorer quality of life, especially in people who are with concurrent mental and physical diseases (Ketis, 2011).

This study aimed to evaluate the quality of life of student who studying in the Islamic Azad University, west branch in Tehran Furthermore, this study assessed if the quality of life of the students related with low back pain and due disability.

Methods

This study is a cross-sectional descriptive study. The statistical sample consisted of 200 students of the Faculty of Humanities of West Branch of Azad University in Tehran that were selected through non-random sampling method (purposive and availability).

Inclusion criteria were considered as studying in the university for at least one year and having conscious satisfaction to be studied. The exclusion criteria were as suffering from any psychiatric disorders, cancer, arthritis or any other inflammation disease of the spine and spinal surgery. Data collection tools consisted of demographic questionnaire, the Roland-Morris Disability Questionnaire and SF-36 standard questionnaire.

Demographic data including age, sex, marital status, employment status, place of residence, education, smoking, physical activity, socioeconomic status, BMI, and history of low back pain / disability.

To determine the degree of disability resulted from back pain, RDQ questionnaire was used. This questionnaire is used as one of the most reliable tools to measure disability. is The score of this tool depends on the scores of each item that were selected by the participants. Highest score of disability is 24 that represents the maximum disability and the lowest score is zero, indicating no disability. Average score of disability for back pain is 14. The score more than 14 represents a kind of physical disability. In addition to physiotherapy, these people should be referred to occupational therapy and rehabilitation to enhance physical performance. Patients who are scored 10 to 13, could be benefited from more regular physical activity. People with scores of 7 to 9 must be monitored a regular exercise program. The reliability with Cronbach's alpha coefficient (a =.88) and (r =.91) have been reported in previous studies (Ketis, 2011).

The SF-36 questionnaire has 36 questions in 8 dimensions as physical function, role limitations due to physical function, bodily pain, and general health vitality, and mental health, role limitations due to psychological and social functioning. Based on the available instructions, raw scores of eight areas of quality of life related to health is calculated and then turns to a standard score between zero to one hundred. The higher means the better condition (Ware & Gandek, 1998). This questionnaire is a reliable and valid internationally scale and in Iran it has been translated and validated in previous study (Montazeri et al., 2005).

Questionnaire was completed as self-administered and all subjects were asked to complete the questionnaire honestly. They were ensured that all information requested in the questionnaire used confidentially. This study was approved by the Faculty of Humanities, West Branch of Azad University Tehran.

Results

Totally, 200 students enrolled in the study. Ten students were excluded due to failing to complete the questionnaire and unwillingness to continue participating in the study. (Response rate of 95%). Of all students, 60.3% (114 people) have a history of back pain. According to Roland-Morris Disability Index, of all students with LBP, 75 students (66%) were suffering from mild disabilities, 7 (6.1 percent) from moderate disability, and 5 (4.4 percent) suffering from severe disability and 4 people (3.5 percent) from acute disability. Totally, 80% of students who had LBP, suffered from disability.

The mean scores of eight dimensions of quality of life as well as physical and mental quality of life were shown in Table 1.

Findings show that there was a significant relationship between disability and quality of life

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in terms of all areas of quality of life. Also there was a negative correlation among all domains of quality of life and disability (Table 1).

Table 2 shows the relationship between all main variables of study including low back pain, disability, quality of physical life, quality of mental life and total quality of life.

Discussion

The aim of this study was to evaluate the quality of life of students who studying in Islamic Azad University, west branch, Tehran. Moreover this study investigated the relationship between QOL, LBP and disability among this target group.

Changes in the pattern of diseases which have reduced infectious diseases and increased life expectancy and chronic diseases have led to increased attention to the concepts of health and quality of life over the past decade (Breslow, 2006). This study showed that average QOL score of students were 72.36 ± 21.53 based on physical dimension and 63.20 ± 21.34 based on mental dimension that were consistent with previous study (Mohammad Alikhani & Jahani Hashemi, 2011). While Nasrabadi reported higher mean score of QOL on physical and mental dimension (Nikbakht Nasr abadi et al., 2008).

According to the results of the present study, quality of life for people with lower back pain at all aspects were lower than students without pain and there was a significant difference in their quality of physical life which is consistent with results of previous study (Tavafian, 2014).

The findings of the study showed the relationship of disability with all dimensions of quality of life except for mental health domains and social function. Furthermore, there was a negative and significant relationship between all dimensions of quality of life and functional disability. These results are consistent with results of the study by Pourhadi and colleagues (Pourhadi et al., 2013). Moreover, the existed evidence (Pellisé et al., 2009) have reported the relationship between the increased disability with lower quality of life. The results of this study showed that there was a direct significant relationship between qualities of physical life, quality of mental life, total quality of life which means that by increasing the amount of these variables, the values of two other variables increase. These results suggest that mental dimension of quality of life is directly affected by the physical dimension that are consistent with the results of previous study (Rezaei et al., 2007). In present study, it was found that there was an indirect relationship between back pain and three variables of quality of physical life, quality of mental life, total quality of life, so that low back pain reduced quality of life and these findings are consistent with results of study by Oksuz and colleagues (Oksuz, 2006) and Zhou et al (Zhu et al., 2007) that in their studies they reported the negative impact of back pain on quality of life. Results of the present study showed that there was also an indirect significant relationship between back pain and disability that were consistent with results of study by Byrne et al (Byrns et al., 2004) and Rahimi and colleagues (Rahimi et al., 2013).

In sum this study indicated a significant relationship between disability and quality of physical life and total quality of life variables. Accordingly, disability has an indirect and significant relationship with health related quality of life.

Limitations and suggestions

As this study was done in the summer, all students were not present in the university, so the results of this study cannot be generalized to all students. This study was a cross-sectional study that could not find the causes of lower quality of life precisely. However, the causality. Studies are more appropriate in this regard. Due to the fact that some psychological factors such as student satisfaction, job satisfaction and the presence or absence of stress could influence on the quality of life of students, so it is advisable to consider all these variables

Discussion

This study indicated low back pain could affect not only on students' physical aspects of quality of life but also psychological and social aspects of quality of life could be decreased. Considering these effects of low back pain among students, multidimensional interventions regarding bio- psychosocial dimensions recommended to improve the quality of life of this target group. in future researches.

Conflict of Interest

There is no conflict of interest for this article.

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Table 1. Mean quality of life in terms of the degree of disability in studied students.

	24		5		7		75		89			
	Mean	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**		
Physical function	35	21.6	51.67	27.32	78.75	12.74	73.74	21.19	82.2	26.3	-0.274	0.001
Role limitations due to physical function	-	-	33.3	37.6	59.38	39.95	56.54	43.19	75	32.22	-0.188	0.012
Bodily pain	25.61	89.10	62.08	20.45	64.69	24.72	78.47	75.49	84.87	20.69	-0.311	0.0001
General health	40	18.7	59.19	22.23	56.25	20.31	60.44	20.5	65.93	20.93	-0.19	0.01
Physical dimension of quality of life	06.34	91.11	51.56	21.05	64.76	20.94	81.52	21.39	76.39	18.75	-0.261	0.001
Mental health	71	39.17	58	20.35	65	20.4	59.51	18.93	66.34	22.26	-0.096	0.208
Role limitations due to emotional problems	33.33	47.1	45	50.1	54.17	43.41	56.54	43.19	69.49	38.9	-0.171	0.022
Social function	71.8	72.15	77.08	14.61	50	45.94	69.09	24.8	77.3	26.25	-0.12	0.108
Vitality	50	91.12	52.5	24.4	58.75	18.07	60.03	18.48	68.19	19.63	-0.231	0.002
Mental dimension of quality of life	56.5	16.18	59.39	23.3	59.71	22.64	60.34	20.41	69.79	22.2	-0.203	0.009
Total quality of life	45.3	23.13	55.47	20.89	62.23	20.05	67	18.2	73.86	18.79	-0.271	0.001

Table 2. Relationship between each of the main variables together.

Back pain	**R**	**-**	**-0.192**	**-0.269**	**-0.055**	**-0.167**
	P	0.00	0.04	0.0001	0.483	0.035
Disability	R	-0.192	-	-0.344	-0.178	-0.280
	P	0.04	0.00	0.001	0.087	0.006
Quality of physical life	R	-0.269	-0.344	-	0.609	0.877
	P	0.0001	0.001	0.00	0.0001	0.0001
Quality of mental life	R	-0.055	-0.178	0.609	-	0.905
	P	0.483	0.087	0.0001	0.00	0.0001
Total quality of life	R	-0.167	-0.280	0.877	0.905	-
	P	0.035	0.006	0.0001	0.0001	0.00

R: correlation coefficient.
p-value< 0.05 (Standard Deviation).

Authors ' contribution

SSK: Conducted whole study and had full access to all of the data for analysis. Also she was involved in drafting the article

BM: Assessed the patients and confirmed their eligibility for the study. He took responsibility for conducting the study and the integrity of the data and the accuracy of the data collection.

MRSHNG: Participated in conducting the study. All authors approved the final version of the manuscript.

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