Original article

Low Back Pain and Quality of Life among Students studying in west branch of Azad University in Tehran, Iran

Rahman Panahi[1*], Behnam Mohammadi[2], Seyedeh Somayeh Kazemi[1], Ali Karimi[3], Mohammad Reza Irani[4]

1. Department of Health Education, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.
2. Physical therapy Department, Faculty of Medical Sciences, Tarbiat Modares University, Tehran, Iran.
3. Health Occupational Department, Yazd University of Medical Sciences, Yazd, Iran.
4. Health Care Management Department, Science and Research Branch, Islamic Azad University, Tehran, Iran.

Introduction: Quality of life plays a considerable role in individual and social health. Low back pain is the most common musculoskeletal disorders and cause negative impacts on various aspects of life. The aim of study was to compare the quality of life of students with and without low back pain.

Methods and Materials: This was across-sectional study performed among students at the Faculty of Humanities, Islamic Azad University, and west branch in Tehran., Iran. 200 students took part in the study and the SF-36scale was used to assess the quality of life of the participants.

Findings: The mean score of overall quality of life, physical, and mental health of the participants were 67.87 ± 19.07, 72.36 ± 21.53, and 63.20 ± 21.34 respectively. There was a significant relationship between quality of life and socio-economic status ($p = 0.007$), physical activity ($p = 0.002$) and smoking ($p = 0.007$). About %60/3of all participants ($N = 114$) reported back pain history. There were significant relationship between quality of life and low back pain ($p = 0.0001$). Quality of life in students with back pain was less than those without back pain.

Conclusion: Considering the underlying factors affecting the quality of life of students, this study showed low back pain could also diminish the quality of life of the students.

Keyword: Quality of life, Low Back Pain, Student, SF-36

Introduction

By the promotion of public health promotion, paying attention to all aspects of welfare specially mental issues, became increasingly important. Quality of Life (QoL) is an important consequence of public health that is a dynamic and multi-dimensional concept which relates to physical, psychological and social aspects of life and has different interpretations of the philosophical and political aspects of health (Amini et al., 2009). According to definition by World Health Organization (WHO), quality of life means "people's perception of their position in life in terms of culture and value system in which the individual lives. It is also a concept beyond physical health and it is important to be measured undependably as one of the important outcomes (Nejat et al., 2006).

Low Back Pain (LBP) is one of the most common complaints and almost 80 percent of people have experienced it, at least once in their lifetime (Dankaerts et al., 2007; van Tulder & Waddell, 2005). Back pain is the second cause of physician' visits (Panahi & Kamali Sarvestani, 2011) after upper respiratory infections and the first cause of disability in people under 45 years old (Noori et al., 2011). From the perspective of occupational health, back pain is the most important reasons for workers' absence, occupational disability, disqualification and compensation, so that 16 to 20 percent of compensation and 34 to 40 percent of the cost of compensation are related to low back pain. In

Corresponding author: No 116, Department of Health Education & Health Promotion, Faculty of Medical Sciences, Tarbiat Modares University, P.O. Box 14115-331, Tel: 0098 912 8630373; Fax: 0098 21 82884555; E-mail: peimanpanahi63@yahoo.com

The longer course of low back pain, the likelihood of recovery and return to work is limited. Therefore after a period of 6 months, the likelihood of returning to work is 40 to 50 percent and after 2 years it is almost zero (Salsali et al., 2004). In recent years, governments have involved severely to diagnose, treat and deal with low back pain and disability (Mohseni Bandpei et al., 2006).

Studies showed that back pain affects all aspects of life, and of course the quality of life (Tavafian, Jamshidi, Shahmohammadi, 2014). Students will build country's future and their healthiness plays an important role in sustainable developments. On the other hand, reasons such as tension from high volume of studies, financial problems, and unknown job prospects are vulnerable to lose health and reduce the rate of quality of life. The aim of this study is to compare the quality of life of the students with or without back pain at the Faculty of Humanities, Islamic Azad University, and west branch in Tehran.

Materials and Methods

This cross-sectional descriptive study was carried out in 2015 at the Faculty of Humanities, Islamic Azad University, and west branch in Tehran. The study conducted on 200 students studying in the fields of hotel management, tourism management, public administration, customs administration and accounting. On-random sampling method was used for sampling. Firstly, the potential students were provided a sufficient explanation regarding the study aim and procedures an if they were satisfied to take part into the study, the consent forms were signed by them. Hereby, the questionnaires were distributed among the eligible students. At least two semesters at the university checked the inclusion criteria which included having informed consent and studying in the university. However, if the students suffering from any psychiatric disorders, spine arthritis/infection and pregnancy were excluded from the study.

Data collection tools include two parts. The first part of questionnaire was allocated to students' demographic characteristics such as (age, sex, marital status, place of residency, education level, smoking, physical activity and body mass index). The second part was SF-36 questionnaire that was used to measure quality of life.SF-36 questionnaire included 8 subscales as physical functioning, physical limitations, bodily pain, general health, liveliness and happiness, social functioning, emotional problems and mental health as well as 2 summary measures that were obtained by integrating measures as physical dimension of quality of life including (physical functioning, physical limitations, bodily pain, general health) and mental dimension of quality of life including (happiness and liveliness, social functioning, emotional problems and mental health). Points for each variable scale were from zero to 100, the zero is for the worst and 100 is for the best condition. Validity and reliability of Persian version of the short form SF-36 questionnaire were approved as a standard questionnaire by the Research Institute of University of Tehran (Montazeri, et al. 2005).

To analyze the data, chi-square test and Spearman correlation coefficients were used through SPSS version 18.

Results

In this study, 10 students were excluded from the study due to failure to completely the questionnaires. %59 (N = 112) of participants were female and %41 (N = 78) were male. In terms of age, %67.4 (128 people) were between 20 and 30 years of old. About %75.8 (N = 144) of them were single and%52.7 (98 people) of them reported the good economic-social situation of their families, and only %16 (N = 30) were smokers. Only %8.5 (N = 16) did exercise every day and %58.7 (N = 111) evaluated their BMI as normal. %13.7 (N = 26) stated that they are self-employed.Also%60.3 (N = 114) of the students had back pain history. According to Table 1, mean score of quality of physical life decreased with increasing age although the mean score of quality of life of female student's was less than male student's for which the difference was not significant. The difference between male and female mean score in terms of mental aspect of quality of life was significant (P = 0.048). Table 1 shows the relationship between quality of life and different demographic characteristics.

Also quality of life for students with low back pain and without low back pain was shown in Table 2. As this Table shows, the students with low back pain had lower score in physical

Dimension of quality of life significantly (P < 0.001).

Table 1. Comparison of the quality of life in terms of the demographic profile of the students participating in the study.

variables		Quality of life (physical dimension)		Quality of life (Mental dimension)		Total quality of life		P-value		
		average	SD	average	SD	average	SD	physical	mental	total
Age	Below 20 years old	82.276	36.14	74.94	19.17	78.61	23.73	0.194	0.084	0.173
	20-29	72.5	18.3	60.83	20.91	66.52	17.66			
	30-40	68.42	25.22	66.84	25.83	69/67	24.34			
	Over 40 years old	66.39	21.01	66.63	15.29	68.49	13.67			
Sex	female	70.85	23.53	60.58	22.14	65.65	20.33	0.261	0.048	0.064
	male	74.66	17.98	67.24	19.55	71.34	16.47			
Marital status	single	72.29	22.37	62.40	22.11	67.29	20.10	0.428	0.294	0.253
	married	72.5	18.033	65.02	17.969	69.65	13.88			
	divorced	100	0 N = 1	100	0 N = 1	100	0 N = 1			
	widow	50	0 N = 1	50.667	0 N = 1	50.33	0 N = 1			
Socio-economic status	Very well	84.71	12.20	78.38	21.91	81.54	15.36	0.009	0.014	0.007
	good	75.36	21.5	63.82	19.77	69.53	17.84			
	average	65.85	21.62	59.05	22.34	62.6	19.95			
	weak	74.06	3.092	93.5	0 N = 1	84.87	0 N = 1			
Smoking	yes	63.57	19.93	54.61	17.67	58.73	17.13	0.019	0.024	0.007
	no	73.94	21.46	64.67	21.41	69.5	18.9			
BMI	slim	66.64	18.72	60.78	21.97	63.4	17.66	0.169	0.784	0.293
	normal	74.09	32.76	64.085	21.926	69.38	19.85			
	overweight	74.64	19.05	63.92	20.37	69.28	17.87			
	obese	55.41	26.35	54.236	23.848	54.82	24.71			
Occupation	student	73.18	23.03	61.79	22.38	67.53	20.57	0.747	0.692	0.696
	housewife	60.48	23.08	64.81	18.22	62.64	17.38			
	employee	71.09	19.18	64.64	23.3	68.16	19.44			
	worker	86.75	0 N = 1	49.37	0 N = 1	68.12	0 N = 1			
	Self-employed	39.71	21.44	65.98	19.44	68.95	17.16			
	unemployment	25.76	0 N = 1	29.33	0 N = 1	52.79	0 N = 1			
	other	75.73	13.19	65.029	16.16	69.38	13.39			
Physical activity	Every day	77.89	8.87	81.18	16.83	85.73	11.17	0.0001	0.001	0.002
	Most often	80.58	22.93	85.52	21.35	74.8	18.51			
	sometimes	70.68	20.25	62.77	20.66	66.78	18.63			
	rarely	65.48	18.45	55.64	17.71	61.03	16.05			
	never	59.48	20.48	55.40	25.74	56.56	19.18			

Table 2. Comparison ofQOL dimensions in terms of low back pain.

QOL dimensions	People with low back pain		People without low back pain		All students		correlation	P-value
	average	SD	average	SD	average	SD		
Physical functionality	67.70	23. 93	83.97	24.29	79.40	24.38	r = 0.234	P = 0.001
Role limitation due to physical problems	65.89	36.72	76.39	32.74	70.14	35/36	r = 0.152	P = 0.042
Physical pain	75.70	45.47	83.72	20/64	78.95	37.26	r = 0.267	P = 0.001
General health	58.39	19.91	66/15	21.519	61.53	20.83	r = 0.187	P = 0.011
Physical dimension of QOL	68.57	23.22	78	17.66	72.36	21.53	r = 0.269	P = 0.0001
Mental health	61.65	18.58	63.11	22.56	62.17	20.24	r = 0.034	P = 0.658
Role limitation due to mental problems	59.57	42.27	60.56	42.28	60	42.04	r = 0.0017	P = 0.82
Social functionality	69.91	24.14	74.28	26.49	71.56	25.13	r = 0.067	P = 0.37
liveliness	60.37	18.70	64.79	20.06	62.21	19.287	r = 0.108	P = 0.158
Mental dimension of QOL	62.21	20.92	64.76	22.18	64.20	21.34	r = 0.065	P = 0.483
Quality of place of residence	65.41	19.81	71.85	17.41	67.87	19.077	r = 0.167	P = 0.035

Discussion

The aim of this study was to determine the quality of life among college students with and without low back pain as well as studying the relationship between qualities of life and low back pain. This study showed the average score of physical and mental dimension of QOL for students. These scores of quality of life seems lower than what the researchers thought.

Based on the findings if the present study, QOL for male students was higher than female students in all dimensions. These results were confirmed in the studies that were conducted by previous researcher (Sabbah et al., 2006 & Arjmand Hesabi, 2008). Overall, in this study, female students reported their QOL lower than male students. In terminology of the problem, this difference can be related to several factors. The first factor was that in different studies, generally the prevalence of chronic diseases (such as back pain) was higher in women compared to men, In present study, the risk of low back pain in women is higher, so it would be the reason for lower QOL among women than men. On the other hand, other similar studies suggest that women evaluated their own level undesirable in compared with men because they have the higher level of understanding and awareness of the disease and pay more attention to

symptoms. In addition, the limitation of physical activity for Iranian women outside the home, menopause and men striation period were also considered effective in difference of QOL between men and women (Lima et al., 2009).

There was a significant relationship between quality of life and socio-economic status, physical activity and smoking. First international comparative study was carried out to investigate the relationship between income levels and related quality of life and showed significant and positive correlation between family income and quality of life that is consistent with the findings of this study (Huguet et al., 2008).

According to the results of this study, a significant relationship was found between quality of life and physical activity meaning that if people did more exercise, their QOL score in terms of physical and mental issues were higher. This result is consistent with the results of previous study (Aminshokravi et al., 2009). Furthermore, the results of the present study showed a significant relationship between quality of physical/mental life and smoking so that QOL scores in terms of physical and mental among smokers were lower than non-smokers and this is consistent with results of previous study where the quality of life's were reported better among nonsmokers rather than smokers (Castro, Matsuo

& Nunes, 2010). According to the results of this study, the quality of life for participants with lower back pain in all aspects were lower than students without back pain. This finding is consistent with results of the existed study (Tavafian, Jamshidi, & Shahmohammadi, 2014; Aliafsari-Mamaghani, 2014).

In sum, results of this study indicate a significant relationship between low back pain and socio-economic status, smoking, physical activity and quality of physical life, and also total quality of life among students. At the end, it should be noted that the lack of relationship between quality of life and some of the variables can probably be due to the small sample size. Also, not completely answering the questions by the students, not comparing with control group and being self-report were the limitations of this study.

However, the results of this study are supported with many other previous studies that are the strong points of this study.

Conclusions

The results of this study showed the students who suffering from low back pain had lower quality of life compared with the students without low back pain.

Conflict of interest

There is no conflict of interest for this article

Author contribution

RP; Study implementation, Data collection and analysis, writing the first draft of Paper.

BM, SSK: Study design and data analysis, editing and confirming the final draft of the paper.

AK, MR: Study design, confirming the final draft of the paper.

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