The Effects of Age and Gender on the Quality of Life of People with Chronic Back Pain in Bosnia and Herzegovina

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ABSTRACT

Purpose: *Quality of life (QOL) is an important area of research in many scientific disciplines, and the findings could help in designing strategies to improve QOL for various clinical conditions. Chronic low back pain is a frequent medical condition that has a detrimental effect on QOL. The goal of this study was to examine the QOL of people with chronic low back pain in Bosnia and Herzegovina (BIH), and to assess the impact of demographic variables such as age and gender on the QOL.*

Methods: *The study sample consisted of 50 people with low back pain, between 19-79 years of age (mean age 51.2, SD- 13.1 years). There were 35 females (70%) and 15 males (30%) in the sample. The instrument used for measuring the QOL was World Health Organisation Quality of Life scale BREF (WHOQOL BREF).*

Results: *The study demonstrated that low back pain has a detrimental effect on QOL. There was a significant effect of age and gender on certain domains of QOL.*

Conclusions: *Older age is a risk factor for lower QOL of people with chronic low back pain. Females are more likely to have lower scores on the psychological domain of QOL,and therefore need effective psychological interventions aimed at improving their QOL.*

Key words: *Quality of life, chronic low back pain, WHOQOL BREF, Bosnia and Herzegovina.*

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INTRODUCTION

Quality of life (QOL) has become one of the main topics of research in many scientific disciplines over the last three decades (Schalock, 2000). However, defining QOL is not an easy task due to the many and varied theoretical standpoints. Most authors have embraced the view of QOL as a multidimensional construct composed of various domains. According to the World Health Organisation work group (WHO, 1995), QOL is defined as "individuals' perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and norms." This definition puts a strong focus on subjective perception of wellbeing of the individual. It should not be equated with health status or lifestyle. Although there are many conceptions about what the domains of QOL are, this study has embraced the WHO model which postulated that QOL is composed of the following components: physical health, psychological health, social relationships and environment. Each of these domains has its own indicators; for example, for the domain of physical health the indicators are activities of daily living, energy and fatigue, mobility, etc.

QOL is an important issue for public health. It has been widely acknowledged that the efficacy of any treatment intervention should not be viewed only in reference to the length of survival but also in reference to QOL (Yao et al, 2002). Given its importance, there is probably at least one study on the QOL of almost every health condition. Examining condition-specific QOL is very useful for making programmes for QOL improvement. It is also important to examine whether there are culturally-related differences in QOL for the same health conditions. Studies on QOL of people with various health conditions have only recently begun to emerge in Bosnia and Herzegovina, most notably in the disability field (Memisevic et al, 2016). Many health conditions can have a negative effect on the QOL. This is especially true for chronic health problems such as chronic pain which often leads to reduced QOL (Breivik, 2014).

Low back pain (LBP) is a frequent medical condition with yearly prevalence in the 22-65% range (Walker, 2000). However, as much as 75-85% of all people will experience a back pain at some point in their lives (Andersson, 1998). If the pain persists for more than three months it is referred to as Chronic Low Back Pain (CLBP). Some authors have proposed that LBP can fluctuate over time from acute to chronic, so the clear demarcation line between the two conditions cannot be drawn (van Tulder et al, 2002). Clients with LBP can be categorised in one of the three groups: 1) Non-specific LBP, 2) Back pain potentially related with

radiculopathy or spinal stenosis, and 3) Back pain related with another specific spinal cause (Chou et al, 2007). LBP creates substantial personal and financial burdens for individuals around the world (Hoy et al, 2012).

LBP has a negative effect on physical, mental and social wellbeing (Wilkens et al, 2013). The factors specifically related to the QOL of people with CLBP have not been thoroughly examined. Some of the factors that are known to have a detrimental effect on QOL in this population are the level of pain and clients' acceptance of pain (Mason et al, 2008). It would be very useful to know the other factors that might have an impact on QOL of people with CLBP. As already mentioned, there are few studies in Bosnia and Herzegovina that have examined QOL in certain disability categories and, to the authors' knowledge, there are none that have examined the QOL of people with CLBP.

Thus, the aim of the present study was to examine the QOL of people with CLBP in Bosnia and Herzegovina. In addition, the authors wanted to determine the effects of gender and age on QOL. Knowing the predictors of QOL might be very useful in creating practices and policies to improve it.

METHOD

Participants

Participants were recruited from the local hospital of a city in central BIH region.

Inclusion criteria: those who had a diagnosis of chronic low back pain and could independently fill the questionnaire.

Exclusion criteria: the presence of any other chronic diseases, neurologic or psychiatric diagnosis.

The study sample consisted of 50 people with chronic low back pain. There were 35 females (70%) and 15 males (30%). The mean age of the participants was 51.2 years (SD- 13.1; age range - 19 years to 79 years). According to the t-test there were no statistically significant differences in the mean age of males and females in the sample (p=.98).

Procedure

The selection of the participants was pseudo-random as the first 50 clients who signed the consent form were tested. The purpose of the study was individually

explained to each of them before they filled the WHOQOL BREF form. The authors received permission to use the Bosnian version of the test from the World Health Organisation QOL group. The participants also provided basic demographic data such as gender, age, place of residence, employment status, etc. They were assured of anonymity and that the information collected would be used for the purposes of the study only. All procedures in the study were conducted in agreement with the Helsinki declaration and the participants gave their written consent.

The study was approved by the University of Sarajevo, Faculty of Health Studies review board.

Instrument

WHOQOL BREF is an abbreviated version of the WHOQOL-100 quality of life assessment. It is composed of four domains which are related to the QOL: physical domain, psychological domain, social domain and environment. There is a high correlation between WHOQOL-100 domains and WHOQOL BREF (r=.89 and above), and WHOQOL BREF domain scores have very good psychometric properties such as discriminant validity, content validity, internal consistency and test-retest reliability (Harper et al, 1998). Higher scores on WHOQOL BREF denote higher QOL.

Statistical Analysis

Prior to the analysis, data was transformed to 1-100 scale according to the WHOQOL manual. The data was presented descriptively through means and standard deviations. The effects of age and gender on the QOL were examined through the correlations, t-test and multiple regression analysis. Four separate regressions were performed, one for each QOL domain, with age and gender as the predictors. An alpha level of .05 was set for all statistical tests. Data was analyzed with the computer programme SPSS v.13 for Windows.

RESULTS

Mean scores on all four QOL domains are presented in Table 1.

Table 1: Mean scores on QOL domains in People with CLBP

QOL domain	Mean score (SD)
Physical domain	52.6 (18.1)
Psychological domain	57.7 (14.5)
Social domain	71.5 (20.5)
Environment	64.2 (14.2)

As can be seen from the Table, the highest scores were achieved for the social domain and the lowest for the physical domain.

Prior to conducting regression analysis, the correlations of age and the QOL domains were examined. The results are shown in Table 2.

Table 2: Correlation of Age and QOL domains

	Physical domain	Psychological domain	Social domain	Environment
AGE	-.28*	-.31*	-.18	-.13

Note: *p<.05

As can be seen from the Table, increasing age had a statistically significant negative effect on physical and psychological domains of QOL, and small non-significant negative effect on social and environmental domains as the correlation was low and was not statistically significant.

Next, the joint effects of age and gender on QOL domains were examined. Thus, 4 separate hierarchical regression analyses were performed. The results are shown in Tables 3,4,5 and 6.

Table 3: Regression Analysis summary for Age and Gender predicting the Physical Domain of Quality of Life

Variable	B	SEB	β
Age	-.39	.19	-.28*
Gender	7.1	5.3	.18

Note: *p=.048

The regression analysis failed to reveal statistical significance for the overall model, although it was close to statistical significance, F(2,47)=2,9; p=.063. The model only explained around 11% of the variance in the scores (R2=.11). However, the effects of age were still statistically significant.

To put these numbers in perspective, the predicted scores for a 30-year-old male with CLBP and a 60-year-old male with the same condition are shown. For the 30-year-old male, predicted QOL in the physical domain is 65.5, and for the 60-year-old male it is 53.5. The predicted score for the females of similar age are 58.4 (30-year-old) and 46.4 (60-year-old).

Table 4: Regression Analysis summary for Age and Gender predicting the Psychological Domain of Quality of Life

Variable	B	SEB	β
Age	-.34	.14	-.31*
Gender	9.2	4.1	.30**

Note: *p=.024; **p=.03

According to the regression analysis, the model predicting QOL was statistically significant, with both predictors being statistically significant, F(2, 47)=5,2; p=.009. The model explained 18% of the variance.

Advanced age and female gender had a detrimental effect on psychological domain of QOL. Again, to put the numbers in perspective, the predicted score on psychological domain of QOL for the 30-year-old male was 71.4, and for the 60-year-old male was 61.2. For females of the same age, the scores were 62.2 and 52, respectively.

Table 5: Regression Analysis summary for Age and Gender predicting the Social Domain of Quality of Life

Variable	B	SEB	β
Age	-.28	.22	-.18
Gender	8.9	6.2	.20

Note: p>.05

The model was not statistically significant and it explained only 7% of the variance in the scores F(2,47)=1,9; p=.16. Both predictors (age and gender) failed to reach statistical significance.

Table 6: Regression Analysis summary for Age and Gender predicting the Environment Domain of Quality of Life

Variable	B	SEB	β
Age	-.14	.15	-.13
Gender	3.5	4.4	.11

Note: p>.05.

Again, the model was not statistically significant and it explained only 3% of the variance F(2,47)=0.7; p=.50.

To sum up, it can be seen that age was a significant predictor for two domains - physical health and psychological domains, while gender was a significant predictor for psychological domain, and both gender and age were not significant predictors for social and environment domains of QOL scales.

DISCUSSION

The goal of the present study was to examine the quality of life (QOL) of people with chronic low back pain (CLBP) in Bosnia and Herzegovina. An additional goal was to assess the impact of age and gender on QOL domains. The self-reported QOL of people with CLBP was lowest for the domain of physical health and highest for the social domain. An opposite profile was found to prevail in a general population. In a large study of healthcare staff, the authors found the highest results for the physical domain and the lowest results for the environment domain of QOL (Gholami et al, 2013). In line with Gholami et al (2013), authors of a study on healthy traffic police members, also found that the QOL domain of environment was affected most negatively and that their self-reported physical health was good (Phadke & Gupta, 2012). It is evident that there are marked differences between clients with chronic diseases and the healthy population, especially in the physical domain. This result was expected as it was well documented that chronic pain worsens clients' QOL (Zanocchi et al, 2008). However, it is important to note that other factors, besides pain intensity, can play a role in clients' QOL. For example, level of optimism can

mediate between pain and QOL, so the more optimistic clients have better QOL (Wong & Fielding, 2007).

It was obvious that the effect of age and gender was not equal across the QOL domains. Age was a significant predictor for the physical and psychological domains, and gender was only predictive for the psychological domain of QOL. Older age was associated with lower QOL in physical and psychological domains, while the female gender was predictive of lower scores on psychological domain of QOL. It is important to note that there are literally thousands of studies both confirming and disproving the direction of the effect. Some of these studies are mentioned here as an illustration of inconclusive findings. Regarding the gender effect, there are other studies that also found that females had lower QOL in both general and clinical populations (Reynolds et al, 2006; Gholami et al, 2013). On the other hand, there are also reports of no difference in QOL between males and females with mental illness (Mercier et al, 1998). Regarding the age effect on QOL, the results are also inconclusive. This finding is supported by the study of Zaninotto et al (2009), in which the authors found that QOL was lower for older participants and that it declines more rapidly for older individuals. On the other hand, a study of cardiac clients (Reynolds et al, 2006) and a study of clients with mental illness (Mercier et al, 2006) both reported better QOL among older individuals. Most of these contradictions probably stem from the different methodological approaches, e.g., instruments used to measure QOL, as it is very hard to compare the QOL construct across studies and between different clinical groups (Memisevic et al, 2017).

There are however interventions that can have a positive effect on QOL. Numerous interventions have been shown to be effective for people with CLBP. One method is mindfulness meditation, a treatment that improved participants' pain acceptance, activity level and physical function in older adults (Morone et al, 2008). Psychological needs of people with CLBP are very important and should be targeted in the intervention programs. It has already been mentioned that some positive psychological traits, such as optimism, can have a beneficial effect on QOL. This is especially important for females as they are at greater risk of having lower QOL in the psychological domain.

Limitations

There are a couple of limitations in this study that need to be noted. First of all, the sample was relatively small, so it is inappropriate to generalize these

results. Secondly, pain intensity in clients was not reported as this could be an important confounder of the results. Future studies should take these factors into consideration as it would help in creating better models of QOL prediction. This in turn will result in better programs aimed at improving the QOL for this population.

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