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Socio-Demographic Characteristics and Quality of Life of Nurses suffering from Chronic Non-specific Low Back Pain

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Background: Socio demographic characteristics of nurses who work in hospitals may impact on their quality of life. This study aimed to assess the relationship between quality of life of nursing staff with chronic nonspecific low back and their socio demographic characteristics.

Materials and Methods: This study was a cross section study. A total of 119 nurses were participated in this study. The 36-item short-form health survey questionnaire (SF-36) was used to assess Health Related Quality of Life (HRQOL) of the participants. SPSS software version18 was applied to analyze data by appropriate statistical tests.

Results: Totally 119 nurses including 93 female (78.1%) were participated in the study. The study showed that there was a significant relationship between age and physical function ($P < 0.0001$). Also there was significant relationship between income and physical role ($P < 0.0001$) as well as bodily pain ($P = 0.015$), mental health ($P = 0.015$), and social function ($P = 0.03$. (

Conclusions: The socio demographic characteristics of nurses could be considered while their QOL are assessed.

Keywords: Socio-Demographic characteristics, Quality of life, Nursing staff, Chronic nonspecific low back pain

Introduction

Low back pain (LBP) is one of the most common public health problems worldwide. Chronic low back pain (CLBP) has serious impact on the quality of life and may cause social, personal, economic, and psychological problems (Afzalifard et al., 2006). LBP is more prevalent among workers, nurses, and drivers rather than the others (Ramezani Badr, Nikbakht nasrabadi & Mohammadpour, 2006). It is the most common work-related musculoskeletal injury (Mohseni BandPey et al., 2007) which leading to disability, impared physical and emotional problems, and quality of life (QOL). Musculoskeletal disorders (MSD) are the most common occupational problems between health service providers like nursing staffs (Choobineh et al., 2012). Kohestani et al. (2006) revealed the relationship between occupational stress and LBP. Furthermore, previous study showed a significant relationship between low back pain and stress among nurses which could leading to lower QOL (kohestani et al., 2006). Studies on health-related quality of life (HRQOL) have revealed lower physical, mental, and social ability among individuals suffering from chronic health problem (Amirian et al., 2014). Several studies have been performed regarding back pain, and its effects on the QOL. Many studies verified the socio-demographic characteristics may impact on quality of life of individuals, but it is yet challenging matter among researchers regarding its effects on different target groups. Thus due to the increased MSD among nursing staff and their effects on their QOL, this study aimed to explore the effectiveness of socio demographic characteristics on QOL of nurses with CLBP who working in hospitals in Yazd.

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Methods

This study was a cross-sectional study which conducted hospitals in Yazd, including three university and educational hospitals affiliated to Shahid Sadooghi University of Medical Sciences in 2014. A total of 119 nurses and nursing assistants with non-specific chronic low back pain (NSCLBP) were assessed. Samples were selected through purposefully sampling procedure. Work experience of at least six months and suffering from CLBP for 12 weeks were inclusion criteria. The participants asked to sign a consent form after providing them with research procedure, and were requested to complete the questionnaires. The 36-Item Short-Form Health Survey questionnaire (SF-36) was used to assess HRQOL. The questionnaire had 36 questions regarding eight domains named Physical Function (PF), Role Limitations due to Physical Problems (RP), Bodily Pain (BP), General Health (GH), Vitality (VT), Social Function (SF), and Role Limitations due to Emotional Problems (RE), Mental Health (MH). The raw score of the eight dimensions was calculated and converted to a standard score from 0 (the worst state) to 100 (the best state). Socio-demographic data collected through questionnaire including age, sex, height, weight, occupation, level of education, income, marital status, and suffering from sciatica. To concern ethical issues, the researcher confirmed the participants regarding the confidentiality of their information. Ethics committee of Tarbiat Modares University approved the study.

Results

Totally 119 nurses including 93 female (78.2%) and 26 men (26.8%) were participated in the study. The majority of participants (N = 71, 59.7%) aged between 33 and 42 years old. One hundred and eight nurses (90.8%) were married. Sixty one subjects (51.3%) were nurse assistant and had educational level of diploma and lower. The education years of the rest subjects (48.7%) were 14 years or above. The majority of the subjects (71.4%; N = 85) were reported they earned average income.

The relationship between gender and QOL is shown in Table 1. According this table, there is no significant difference between both sexes regarding the eight domains of the quality of life. Furthermore, there is no significant difference between male and female regarding both Physical Component Scale (PCS) and Mental Component Scale (MCS). However, the average scores of PCS in female (47.25 ± 17.23) is much lower than MCS (53.64 ± 19.23) as well as PCS score in male (46.58 ± 17.96) in comparison with MCS (60.19 ± 20.09) that is much lower ($P < .0001$).

The average scores of different dimensions of QOL at different ages are shown in Table 2. As the results, there is a significant relationship between age and QOL just in physical function domain ($P < .0001$). However there were no significant relationship between the other dimensions of QOL and different age groups (all P values < 0.05)

Table 1. Comparing the quality of life scores in nurses with back pain according to sex (N = 119).

Dimensions	Female nurse (n = 93) Mean (*SD*)	Male nurse (n = 26) Mean (*SD*)	*p*-value (t-test)
Physical Function (PF)	59.30 (21.15)	56.15 (19.14)	.495
Role Limitations due to Physical Problems (RP)	36.02 (33.87)	35.57 (38.84)	.954
Bodily Pain (BP)	42.43 (16.95)	39.46 (17.99)	.438
General Health (GH)	51.27 (18.69)	55.15 (16.92)	.343
Vitality (VT)	58.44 (16.87)	63.07 (18.44)	.227
Social Function (SF)	53.76 (22.25)	59.61 (22.16)	.238
Role Limitations due to Emotional Problems (RE)	41.21 (45.15)	48.71 (42.40)	.450
Mental Health (MH)	61.16 (20.36)	69.38 (17.37)	.063
Physical Component Scale (PCS)	47.25 (17.23)	46.58 (17.96)	.862
Mental Component Scale (MCS)	53.64 (19.23)	60.19 (20.09)	.131

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Table 2. Comparing the quality of life scores in nurses with back pain according to age (N = 119).

Dimensions	23-32 (N = 26) Mean (*SD*)	33-42 (N = 71) Mean (*SD*)	43-52 (N = 19) Mean (*SD*)	53-62 (N = 3) Mean (*SD*)	*p*-value (ANOVA)
Physical Function (PF)	72.88 (16.44)	57.18 (20.20)	46.84 (17.33)	43.33 (22.54)	$P < .0001$
Role Limitations due to Physical Problems (RP)	40.38 (30.88)	35.91 (36.53)	28.94 (34.62)	41.66 (38.18)	.741
Bodily Pain (BP)	47.19 (17.43)	40.46 (17.42)	38.26 (15.18)	48.33 (15.17)	.238
General Health (GH)	56.73 (17.28)	50.21 (18.78)	53.36 (15.51)	49.66 (33.56)	.469
Vitality (VT)	61.73 (18.97)	59.36 (16.94)	54.73 (15.67)	71.66 (17.55)	.340
Social Function (SF)	60.57 (23.89)	54.22 (22.35)	50.65 (20.18)	54.16 (19.09)	.491
Role Limitations due to Emotional Problems (RE)	43.58 (45.96)	41.78 (43.90)	40.35 (47.89)	77.77 (19.24)	.587
Mental Health (MH)	63.53 (21.59)	62.19 (19.82)	62.10 (17.95)	81.33 (22.74)	.445

The relationship between income and QOL are shown in Table 3. As this table shows, there are significant relationships between income and role limitations due to physical problems ($P < .0001$), bodily pain ($P = .015$), mental health ($p = .015$), and social function ($P = .03$) (Table 3).

Table 3. Comparing the quality of life scores in nurses with back pain according to income (N = 119).

Dimensions	High income (N = 4) Mean (*SD*)	Average Income (N = 85) Mean (*SD*)	Low income (N = 30) Mean (*SD*)	*P*-value (chi-square)
Physical Function (PF)	63.75 (28.68)	60.41 (19.74)	52.83 (21.92)	.583
Role Limitations due to Physical Problems (RP)	100 (0)	38.52 (33.75)	20 (28.16)	$P < .0001$
Bodily Pain (BP)	64.75 (18.20)	43.29 (16.90)	34.43 (14.12)	.015
General Health (GH)	56.75 (19.97)	54.45 (17.51)	44.90 (19.03)	.389
Vitality (VT)	65 (24.15)	60.76 (17.51)	55 (15.25)	.169
Social Function (SF)	78.12 (29.53)	56.32 (21.95)	48.33 (20.16)	.03
Role Limitations due to Emotional Problems (RE)	75 (50)	45.49 (45.38)	31.11 (39.08)	.261
Mental Health (MH)	66 (29.30)	65.45 (19.32)	55.46 (19.39)	.015

Discussion and conclusion

This study explored the relationship between socio-demographic characteristics and QOL among nurses with CLBP who working in hospitals in Yazd. As the results showed there was no significant difference between the quality of life of men and women in this study. Although this result might be due to the small sample size, in a previous study no significant difference was observed between the quality of life of women and men (Ayatelahi and Rafiei 2003). Our results are in contrast with some other studies that showed men with higher quality of life compared with women (Jafari et al., 2013; Khorsandiet al., 2010; Fallahee Khoshknab et al., 2007). In these studies, among the eight domains of quality of life, the lowest mean scores have been allocated to the dimension of role limitations due to physical problems both in female and male staff. The results also verified a significant relationship between age and physical function so that the physical function was lower in older nurses. This result might be due to the incidence of disabilities that were more obvious in older ages as the consequences of reduced physical activity. This finding could be attributed to age-related changes. However these results are in the line of other previous studies' findings (Jafari et al., 2013; Nouhi, Mehdipour Rabari &

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Abasszadeh, 2012), that confirmed with increasing age the physical function were reduced (Mohammadi Zeydi, Khalaj & Naghizadeh Jahromi, 2007). According to this results, people with the age ranges from 23 to 32 years had better physical function, general health, and social function, which could be due to better physical ability in this age group. In this study, the mental health and vitality had the most desirable status in age groups of 53 years and above. It could be due to stability of job, family, and life in these ages. These results are in accordance with other studies' finding accomplished in Iran and Turkey (Jafari et al., 2013; Ergun, Oran & Bender, 2005). The present study also showed a significant relationship between income and the role limitations due to physical problems, bodily pain, mental health, and social function, which are also in consistent with other studies conducted in Hong Kong and Boukan city. These researchers found the significant relationship between income and QOL (Ko et al., 2006; Abdollahpour et al., 2011). However, the other studies did not report these findings (Khorsandi et al., 2010; Fallahee Khoshknab et al., 2007). It is likely that low QOL in people with low income is due to long working hours and frequent shift work. Frequently shift working may lead to impaired social participation and low mental health (Suzuki et al., 2004). (Klersy et al., 2007) showed that nurses' social function dimension were lower than other people in Italy (Klersy et al., 2007). In this study, no significant relationship was observed between education and job and the quality of life, which are in accordance with other studies' findings conducted in Turkey (Ergun, Oran & Bender, 2005) and Iran (Jafari et al., 2013). The main problems and limitations in conducting this study were impatience and carelessness of the participants while filling out the questionnaire because of being so busy in their work site. Thus, It is recommended that the questionnaire be filled in shift works with lower workload. Self-reporting was the other limitation of this study that recommended to be considered in future studies. Furthermore, this study was conducted on a small sample size by which we could not trust the non-significant relationships. Thus, doing further researches with larger sample size are necessary for confirming these findings.

Conflict of Interest

There is no conflict of interest for this article.

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Authors ' contribution

MGH: Conducted whole study and data analysis. Also she was involved in drafting the article

SST: Assessed the participants and confirmed their eligibility for the study. She was responsible for accuracy of the data collection and analysis.

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

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