Health related quality of life and pain characteristics among Iranian patients suffering non-malignant chronic pain

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Abstract

Background: Chronic pain is a frequent disability that negatively affects patient's quality of life. Understanding of the possible relation between sociodemographic and medical variables with Health Related Quality of Life (HRQL) may help identifying the multidimensionality of pain and risk factors that limit physical and psychological adjustment of the patients. The present study was done to find these possible relationships, based on using Medical Outcomes Survey-Short Form (SF-36).

Methods: Among the patients who were referred to pain clinic of Iranian Pain Society, 101 consecutive outpatients were select based on the defined inclusion and exclusion criteria. All the participants in this study orally satisfied and were fully informed by a check list and SF-36 questionnaire. The possible impact of demographic variables, characteristics, diagnosis, analgesic use, smoking and opium addiction were collected as the first part of a routine pretreatment evaluation.

Results: Our findings showed significant relation between HRQL and gender ($P<0.05$), the rate of chronic pain in female was higher than male, and same results found for elderly patients compared to younger ones. Our findings also showed significant relation between employment and intensity of pain ($p=0.001$) as, employed patients showed less physical and psychotic problems than unemployed ones. The mean average of intensity of pain in these patients was 7.5 ± 2.2; few patients used alcohol (4%), opium (1%) and cigarette (10%). Large number of participants used analgesic (%78.2). No significant difference between sociodemographic features with pain duration and quality of life was found. In contrast our data showed significant difference between pain intensity and quality of life ($p<0.001$).

Conclusion: Based on our findings it could be concluded that chronic pain in Iranian patients certainly leads to poor HRQL, the state is more serious in the elderly and female patients. Thus, in order to re-socialize the patients suffering chronic pain and decrease the impact of their pain on their life, these findings should be considered in any kind of pain relief therapy.

Keywords: Chronic pain, Health-related Quality of Life, SF-36 questionnaire.

Introduction

Pain, as a universal phenomenon, is related with many health problems and disturbed functioning (1-6) and is the most common reason for seeking medical care (7-10). Among different type of pain, managing and treatment of the chronic pain is difficult and

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also very expensive for the society and the government. The situation would be more serious if the resulting disability and absence from work come to account (11-14). Studies throughout the past 2 decades have shown a large variability of prevalence rates of pain. Since there might not be an effective treatment to relieve chronic pain, harmful effect on all aspects of health-related quality of life (HQRL) is not un-expectable. Chronic pain was defined as "continuous or intermittent pain or discomfort which has lasted 6 month or longer, due to non-life threatening cause, with no response to currently accessible treatment methods (15). Chronic pain may continue for the reminder of the patient's life (15). According to Verhaak et al, the prevalence of chronic benign pain varies between 2% to 40%, according to the method used in the study and the populations studied (16). In an epidemiologic study in Scotland, the prevalence of significant chronic pain was 14.1% (6, 17). In another study, among Australian adult population, 17% of men and 20% of women reported daily chronic pain (5). For chronic pain that interferes with daily life, the corresponding percentages were 11% and 13.5% (5). The HQRL is a multidimensional paradigm given a number of more or less broad interpretations, depending on which aspects concerning the patient's life are included. On the other hand health has defined by World Health Organization (WHO): "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity" (18). In recent studies, more attention has been paid to the impact of chronic pain on daily living activity. Patients seek out medical care because their illness or disease has detrimentally affected not only their health and well-being but also attendant quality of life (19). Chronic pain is often associated with a reduced sense of well-being. Several studies indicated that sociodemographic differences exist among the patients with chronic pain. Gender differences are reported in chronic pain, which indicate that women are more sensitive to painful stimuli than men (20, 21). Some research also showed significant

reduction in HRQL followed by chronic pain (22, 23). Understanding of the possible relation between sociodemographic and medical variables with HRQL may be helpful in identifying the multidimensionality of pain and risk factors that limit physical and psychological adjustment of the patients. Thus, the present study designed mainly on HRQL of the patients with chronic pain in order to find relationship between chronic pain and sociodemographic parameters.

Methods
A sample consisted of 101 consecutive outpatients who were referred to pain clinic of Iranian Pain Society for nine months. The subjects met the following inclusion criteria were: (a) more than 17 years age, (b) reported chronic non malignant pain that had lasted for more than 6 months, (c) did not received any medication in the center, and the patients have current or history of mentally health. The background variables such as age, gender, marital status, employment, educational status, pain intensity, duration, location, time interlude, constancy, diagnosis, analgesic use, smoking and opium or alcohol addiction were collected as the first part of a routine pretreatment evaluation. All patients that have inclusion criteria and announced orally their agreement and consent to enter the study, fulfilled check list of demographic characteristic ,pain characteristics and short form 36 (SF-36) questionnaire during the clinical face to face single bind interview with one person

To assess pain numeric rating scale (NRS) was used. NRS dominantly used to measure the pain intensity. The scale of 10 was selected in which "0" have no pain and "10" have the worst imaginable pain. The NRS is simple and efficient to use and has been shown to be reliable and valid as a ratio-scale measure of pain intensity (24). To study health related quality, SF-36 was used. The SF-36 is a general health related quality of life survey which comprises 36 multiple choice questions sorted in eight categories or subscales which address health constructs considered to be important to most health

care situations and generally covers two basic domains including physical health (PCS) and mental health (MCS) (25). These items are as follows physical functioning (PH), role limitations (physical problems) (RP), bodily pain (BP), general health (GH), vitality (VT), social functioning (SF), role limitations (emotional problems) (RE), and mental health (MH). The questionnaire is translated to Farsi and validated in Iran (26) several years ago with the reliability and validity of (a=0.76, validity > 0.8). To consider ethic rules the present study was approved by local Ethic committee of former Iran University of Medical Sciences (IUMS). All participants gave their oral consent and agreement for interview. Patient's information kept confidential. Voluntary participation in the study emphasized and the participants had the right to leave the study at any time.

Statistical Analysis: The data were analyzed with statistical tests including independent samples t-test, chi2, one-way ANOVA, and Pearson correlation in the statistical package for social science by using SPSS 16 and the results were presented with a mean± SD. The data of SF-36 questionnaire were automatically calculated with (Microsoft Redmond WA) Microsoft Excel 97 that based on complete guidelines of SF-36. P-value less than 0.05 was considered to be statistically significant.

Results

Regarding to demographic characteristics of patients, our findings showed that the average age of patients was 45.2±13.3 years (range: 17-82). There were 80 (79.2%) female and 21 (20.8%) male, in which 87(86.1%) were married and 2(2%) widows. Male's mean average age (50.04±14.5) was higher than female (44.03±12.7) (p<0.05). Educational data showed that 53(52.5%) had not complete high school, 34 (33.7%) had diploma and 14(13.9%) had some college or university education. 81(80.2%) live in Tehran, most of the patients lived in area close to this clinic, 48 (59%) of patients live out-
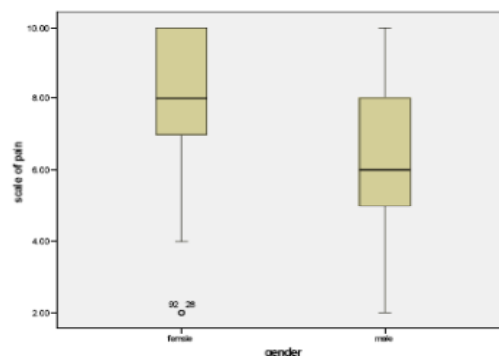

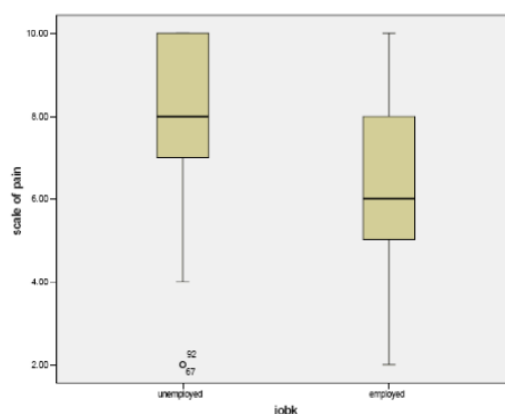Fig 1. Intensity of pain in relation with gender.

Fig 2. Intensity of pain and its relation to employment.

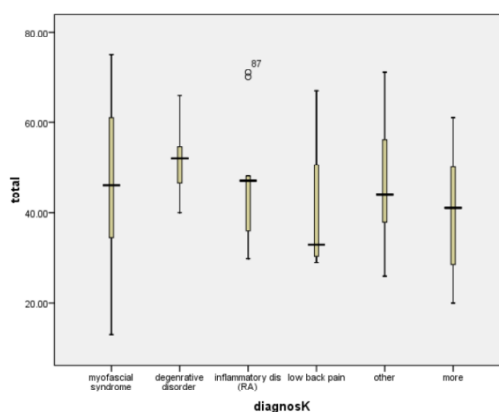Fig 3. HRQL and patient's diagnosis.

side of Tehran, and 20 (19.8%) came from other cities. Among them, 29 (28.7%) were employed either full or part time, 9 (8.9%) unemployed or 63 (62.4%) housewife. Mean severity of pain, using the NRS, was 7.5±2.2, and the average time since diagnosis was 50.9±6.1 month (range: 6-360 month). Primary pain complaints varied: 9 (8.9%) suffered from upper extremity and

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Table1. Mean and SD of SF-36 subscales and total score

HRQL	Mean(SD)
PF	65.04(20.21)
RP	25.74(27.03)
BP	37.02(20.17)
GH	48.32(20.30)
VT	41.48(22.22)
SF	57.66(27.50)
RE	39.24(36.09)
MH	47.96(20.91)
PCS	43.37(14.49)
MCS	46.95(16.94)
Total	45.28(15.10)

upper trunk, 1(1%) from headaches, 8 (7.9%) from back pain, 25 (24.8%) from lower limb pain, 27 (26.7%) from whole body pain, 11(10.9%) from back and lower limb pain and 20(19.8%) from two or more site of body pain, 39 (38.6%) of them suffered by myofascial syndrome, 7 (6.9%) degenerative disease, 12 (11.9%) inflammatory disease, 7(6.9%) low back pain, 15(14.9%) more than one disease and 20 (20.8%) other disease. Few patient consume alcohol (4%), use opium (1%) and smoking cigarette (10%), and notable number of them used analgesic (%78.2).

Pain characteristics: Pain characteristics including time constancy, time interlude of pain; worsen time of pain, site of pain and quality of pain were studied. Accordingly, quality of pain in most patients was consid-

ered as a referral pain 32(31.7%).

For pain duration there was no significant difference between socio-demographic characteristics (age, gender, educational status, employment and marital status) and pain duration (p>0.05), also showed no significant difference between quality of life and pain duration (p>0.05).

Although, no significant difference between socio-demographic characteristics such as age, educational status, marital status and pain intensity was found (p>0.05), pain intensity in unemployed patients was significantly higher than employed ones (p=0.001), and it was also significant in female compared to men (p=0.009). Significant differences in pain intensity and PCS, MCS and total score of quality of life (p<0.001) was found (Figs.1, 2).

The SF-36 data: The mean and SD of SF-36 subscales and total score are shown in Table 1. Lower values were found on all SF-36 subscales compared to normative data from a normative Iranian population (26) and elderly population (27) and we also observed equal value compared to Iranian lower back pain patients. The most affected domain in chronic pain was the physical role, referring to limitation in daily activities. Table 2a&2b presents HRQL scores as measured by the SF-36 and demographic characteristics. The mean (SD) of physical and mental summary scores were 43.37(14.4)

Table 2a. Relation between demographic characteristic and HRQL details.

Scales	Age group				p	Job		p
	=<20	21-40	41-60	>60		unemployed		
PF	1E	70.9(19.4)	61.6(20.3)	58.6(16.2)	.032	62.1(19.5)	72.2(20.3)	.02
RP	25.0(0)	27.7(27.8)	20.7(25.3)	43.1(27.5)	.084	23.6(26.5)	31.0(28.0)	.22
BP	42.0(0)	33.7(17.7)	36.4(20.1)	49.8(25.1)	.141	36.6(21.3)	37.9(17.1)	.748
GH	72.0(0)	44.8(18.8)	48.3(20.4)	57.5(22.5)	.199	45.6(20.1)	55.0(19.4)	.035
VT	85.0(0)	44.3(19.8)	38.1(22.4)	44.5(25.5)	.118	40.7(22.1)	43.2(22.6)	.614
SF	88.0(0)	61.3(24.7)	51.6(28.3)	71.69(26.2)	.063	55.7(28.6)	62.3(24.2)	.248
RE	67.0(0)	40.7(36.6)	37.0(37.9)	42.4(26.4)	.822	37.0(35.2)	44.8(38.1)	.345
MH	80.0(0)	50.1(17.6)	45.2(22.1)	51.2(23.5)	.273	48.2(21.0)	47.1(20.9)	.811
PCS	65.0(0)	44.2(13.3)	40.9(14.5)	50.5(15.1)	.084	41.5(13.9)	47.8(14.9)	.059
MCS	78.0(0)	48.3(15.6)	44.0(17.3)	53.4(16.0)	.079	45.5(16.5)	50.4(17.7)	.202
Total	70.0(0)	46.7(14.4)	42.3(15.0)	52.2(13.9)	.061	43.6(14.5)	49.2(16.0)	.114

Table 2b: relation between demographic characteristic and HRQL details.

Scales	Gender			Educational status				Marital status			
	Male Mean (SD)	Female Mean (SD)	p	under diploma	diploma	Higher than diploma	p	Single Mean (SD)	Married Mean (SD)	Other Mean (SD)	p
PF	73.0(18.6)	62.9(20.1)	0.04	64.9(21.6)	63.5 (19.1)	69.2 (17.8)	0.671	64.7(19.8)	69.5(23.5)	52.5(17.6)	0.502
RP	30.9(28.9)	24.3(26.6)	0.3	29.2(28.0)	19.1 (25.1)	28.5(25.6)	0.215	26.4(27.5)	18.7(18.8)	37.5(53.0)	0.543
BP	40.8(22.3)	36.02(19.5)	0.3	39.6(21.5)	34.0 (19.6)	34.2 (15.4)	0.391	37.7(20.7)	30.4(16.5)	47.0(7.0)	0.395
GH	53.3(20.2)	47.0(20.2)	0.2	45.3(17.8)	51.2 (24.3)	52.5 (17.8)	0.301	46.7(19.8)	55.9(20.0)	71.0(29.6)	0.095
VT	48.3(23.3)	59.6(21.7)	0.1	43.4(23.9)	35.4 (21.1)	48.5 (14.3)	0.112	39.5(21.4)	52.9(22.9)	55.0(42.4)	0.102
SF	61.5(27.9)	56.6(27.4)	0.4	57.3(29.3)	57.9 (23.7)	58.2 (30.5)	0.990	56.4(27.4)	63.7(28.0)	75.0(35.3)	0.463
RE	38.7(36.5)	38.7(36.5)	0.7	42.7(35.5)	31.3 (36.6)	45.1 (36.1)	0.287	39.0(36.7)	44.5(32.9)	16.5(23.3)	0.596
MH	50.8(20.7)	47.2(21.0)	0.4	49.3(22.6)	44.4 (18.8)	51.1 (19.0)	0.475	46.9(20.6)	54.3(23.4)	52.0(22.6)	0.507
PCS	49.1(14.4)	41.8(14.2)	0.04	44.3(15.2)	40.6 (14.0)	46.5 (12.0)	0.348	42.8(14.1)	45.6(15.2)	52.5(30.4)	0.552
MCS	51.0(16.7)	45.8(16.9)	0.2	47.6(18.4)	44.0 (14.2)	51.2 (16.8)	0.381	45.7(16.2)	54.2(19.4)	54.0(31.1)	0.226
Total	44.0375	50.0476	0.1	46.4(16.1)	42.1 (13.0)	48.4 (15.5)	.298	48.7(14.6)	44.6(17.2)	50.5(28.9)	0.610

and 46.9(16.9) respectively; indicating that the mental status of the participants was significantly better than their physical condition (p<0.001). Our data also showed significant difference between age group and physical dysfunction. No correlation between the participant's socio-demographic characteristics and quality of pain was found except educational status (p=0.01) and there were no correlation between quality of pain and all of item of SF-36 and total scores except for physical function (p=0.04, r= 0.1) as is shown in Table 3.

Pain in most patients continually and in most patients 37(36.6%) worsen at night but it was not different in morning or night. There were no significant differences in the participant's socio-demographic characteristics with other pain characteristics (time constancy, time interlude, worsen time of pain, site of pain) except marital status and time consistency (Table 4).

Regarding diagnosis and HRQL, no relation between these two items was found (Table 5 & Fig.3).

Table 3. Relation between pain characteristic and HRQL details.

Pain Characteristics HRQL	Site of pain p value	Time consistency p value	Worsen time p value	Time interlude p value	Quality of pain p value
PF	.548	.068	.457	.268	.255
RP	.883	.627	.200	.647	.548
BP	.836	.015	.416	.062	.595
GH	.001	.028	.705	.008	.747
VT	.415	.018	.762	.032	.609
SF	.841	.638	.954	.273	.526
RE	.864	1.000	.675	.953	.403
MH	.685	.018	.682	.137	.904
PCS	.245	.004	.902	.008	.650
MCS	.317	.087	.969	.105	.771
Total	.523	.040	.969	.072	.755

Table 4. Relation between pain characteristic and demographic variable.

Pain characteristics (Socio-demographic Variable)	Site of pain p value	Time consistency p value	Worsen time p value	Time interlude p value	Quality of pain p value
Gender	0.8	0.8	0.06	0.7	0.6
Marital status	0.5	0.01[*]	0.1	0.5	0.4
Educational status	0.5	0.5	0.6	0.9	0.01[*]
Employment	0.1	0.9	0.3	0.6	0.3

P<.05 (two tailed) is significant

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Table 5. SF-36 subscales and total score relationship with diagnosis.

HRQL	Diagnosis p value
PF	.882
RP	.583
BP	.829
GH	.042[*]
VT	.588
SF	.117
RE	.604
MH	.358
PCS	.488
MCS	.648
Total	.613

P<.05 (two tailed) is significant.

Discussion

As it is mentioned in pervious parts, the aim of this study was to evaluate varieties of HRQL among the Iranian patients suffering from chronic pain. Furthermore, we explored the relation between HRQL with socio-demographic and medical variables. Our findings showed that the rate of chronic pain in female was higher than male like other studies (28-30) and most patients were old and married as Sharifi M et al, Brevik et al, Moulin et al, Laursen et al (28,31-33) showed. The HRQL in elderly patients was lower than other patients (26, 33, 34). In addition, one might attributed the findings to poor health care services for elderly people compared to youth due to several factors including economic barriers and disability (33). Despite Tajvar et al study, we found that elderly patient had better physical health condition compared to their mental health (27). This might be due to the socio-cultural situation of elderlies in Iran or lower sample size than Tajvar's study (27). Most of the patients were undereducated (52.5%) and most of them were female that is lower than to what reported by Dysvik et al (30). This finding may simply show the current educational status in Iran (30). Most patients were suffering lower limb pain that was demonstrated unsuitable habits. Mean pain duration in this study was nearly close to Larsen et al and lower than Jensen and Dysvik study (29, 30). Mean intensity of pain was higher than

other study reported that might be due to sample size and selection. Opium addiction and alcohol usage were very low due to Iranian religious and cultural believe. Employment of participant influence physical domain and intensity of pain that show the employed patients have less physical problem than unemployed. Significant reduction in all of the SF-36 health domains found in present research was the same as reported by other researchers (22, 23, 26, 27, 30). However, certain limitations influenced the extent of the outcome for this study including: method of patients' enrollment, limited number of participants leads to nonrandom selection, fairly homogeneous patients and the exclusive reliance on the patients' self-reports.

Conclusion

Despite the limitations for this study, based on our findings it could be concluded that management of chronic pain has certain cultural and social aspects that should considered by the health care disciplines, it seems that the desire outcome of any therapeutic intervention is strongly depend to these factors.

Acknowledgments

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