**RELATIONSHIP OF AGE AND GENDER WITH HEALTH RELATED QUALITY OF LIFE AMONG PATIENTS WITH LOW BACK PAIN IN KANO METROPOLIS**

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***Abstract:*** *The most prevalent musculoskeletal disorder among adults in the world is low back pain (LBP) and its impact is pervasive and affects self-rated health. This study investigated the relationship of age and gender with health related quality of life (HRQoL) among patients with LBP. A total of 100 subjects with LBP of mechanical origin participated in this study. HRQoL of the participants was measured with short form-36 (SF-36) questionnaire and a self-designed questionnaire seeking participants’ age and gender was equally administered. Relationship of age and gender with HRQoL was analyzed using Pearson product moment coefficient of correlation. The outcome of this study showed that age and gender correlated poorly, disproportionately and insignificantly (p>0.05) with all domains of HRQoL except general and mental health domains which were found to associate directly though poorly and insignificantly (p>0.05) with gender. Therefore, age and gender cannot determine or predict HRQoL among LBP patients and they might however not necessarily be taking into consideration during rehabilitation of these individuals.*

***Keywords:*** Age, gender, health related quality of life and low back pain.

**INTRODUCTION**

Musculoskeletal disorders are prevalent and their impact is pervasive. They are considered to be the most common cause of severe long-term pain and physical disability, and they affect hundredsof millions of people worldwide. They significantly affect the psychosocial status of affected people as well as their families and careers (Woolf & Akesson, 2001). Musculoskeletal disorders represent a spectrum of disorder, including those of acute onset and short duration to lifelong disorders like osteoarthritis, rheumatoidarthritis, osteoporosis, and low back pain. The most prevalent musculoskeletal disorder among adult in the world is low back pain (LBP) (Louw, Morris, & Sommers, 2007; Rudy, Weiner, Lieber, Slaboda & Boston 2007; Woolf & Pfledger, 2003), it disturbs practically everyone at some point in time, and around 4–33% of the population at any given point will report at least one episode of LBP (Woolf & Pfleger, 2003). LBP is a complex condition with several factors contributing to its occurrence (Rihimaki, 1991).Three different groups of potential risk factors have been identified: individual factors such as body weight and age, biomechanical factors such as heavy physical load lifting, twisted postures and vibration and psychosocial factors such as job control and job satisfaction (Frymoyer, Pope & Costanza, 1990). The patients with LBP not only suffer from physical discomfort, but also functional limitation that might cause disability and interfere with their quality of life (Patrick, Deyo & Atlas, 1995).

Research on chronic diseases such as LBP has indicated that HRQoL varies according to demographic characteristics such as income level, educational history, ethnicity, occupational status, age, and gender, with disadvantaged groups typically reporting lower HRQoL (Sherman, Griffiths, Akdag, Connolly, Silck & Wiebe, 2007). Van Servellen, Chang and Lombardi (2002) found that male gender, low education, and low degree of acculturation are all factors posited to influence delays in seeking treatment and, consequently, to adversely affect HRQoL. Mantyselka, Turunen, Ahonen and Kumpusalo (2003) reported that after age of 15 years, pain is independently and significantly related to impaired self-rated health. They also reported that daily chronic pain seems to be linked to poor health even more strongly than chronic diseases in younger individuals than in older ones. Age, gender, ethnicity and SES in addition to acute and chronic clinical problems influence HRQoL (Hopman, Towheed, Anastassiades, Tenenhouse, Poliquin& Berger, 2000; Johnson &Wolinsky, 1993; Jones, Voaklander, Johnson & Suarez-Almazor, 2000). Consequently, the overall impact of LBP which include physical discomfort, functional limitation and emotional discomfort characteristically affect sufferers’ health related quality of life (Horng, Hwang, Wu, Liang, Jang & Twu, 2005; Patrick, Deyo & Atlas, 1995). This is because health has been defined as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1998). Health Related Quality of Life (HRQoL)is a core component in defining health status which has been defined as a concept representing individual responses to the physical, mental, social effects of illness on daily living and it is believed to influence personal satisfaction with life circumstances (Resnick, Orwig, Wehren, Hawkes, Hebel, Zimmerman, &Magaziner, 2005). Several demographic and clinical factors are said to influence HRQoL, some of the implicated clinical factors include physical, psychological, acute or chronic clinical conditions and pain intensity (Elisabeth, Stephanie, Sare, Mary, Daniel & Samuel, 2007; Kwon, Shin, Kin, Gwak, Hahm & Kim, 2006; Trompenaar, Masthoff, Van Heek, Hodiamont & De -Vrie, 2005) and the demographic factors include age, gender and ethnicity (Borgquist, Nilsson, Lindelow, Wiklund & Thorngren,1992; Hopman,Towheed, Anastassiades, Tenenhouse, Poliquin& Berger, 2000; Jones, Voaklander, Johnson & Suarez-Almazor, 2000). Quality of life (QoL) is adjudged to be influenced by several factors including cultural and demographic factors, to what extent do LBP patients’ age and gender characteristics influence their HRQoL needs a closer attention. This study investigated the relationship of age and gender with HRQoL among LBP patients.

**Research hypotheses**

The following hypotheses were formulated and tested at 0.05 alpha level.

1. Age would not significantly correlate with HRQoL in patients with LBP.
2. There would be no significant relationship between gender and HRQoL in patients with LBP.

**METHODOLOGY**

**Research design**

This study was a correlational survey design of the relationship of age and gender with HRQoL among patients with LBP.

**Population**

The population for this study included patients with LBP of mechanical origin attending rehabilitation programme in the three tertiary health institutions in Kano metropolis (Aminu Kano Teaching Hospital (AKTH), Murtala Muhammed Specialist Hospital (MMSH), and National Orthopedic Hospital, Dala (NOH).

**Sample size and sampling technique**

A total of one hundred (100) patients with LBP of mechanical origin within the age range of 20-70 years that were attending rehabilitation program in the above mentioned hospitals participated in this study. They were recruited using proportionate random sampling technique.

**Data collection instruments**

The short form-36 (SF-36)questionnaire is a 36 items tool structured into 8 domains namely; physical functioning (PF), role limitations due to physical health problems (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitation due to emotional problems (RE), and mental health (MH) was used to assess HRQoL and a self-designed questionnaire which was developed by the researcher seeking the participants’ age and gender was also used in this study.

**Validity and Reliability of data collection instrument**

The SF-36 is an internationally validated generic questionnaire and its reliability was calculated to be 0.84 to 0.91(r=0.84-0.91).

**Data collection procedure**

An approval from the Ethical Committees of the above mentioned hospitals was obtained for permission to conduct this study and the patients with LBP of mechanical origin were recruited consecutively through their hospital files in the various physiotherapy departments. An informed consent was sought from the participants and thereafter, the objectives of the study were explained to them. The SF-36 questionnaire was administered face to face by the researcher and there was 100% retrieval. SF-36 responses vary from dichotomous (yes or no) to six point verbal rating scale (ordinal). All items in this tool were scored on a scale of 0 to 100; with 100 representing the highest level of functioning possible. Aggregate scores were compiled as a percentage of the total points possible. The scores from those questions that address each domain of functional health status were aggregated and then averaged, to arrive at a final score within each of the 8 domains. However, age interval of 10 was used to categorize the participants into different age groups from 21 to 70 years.

**Data analysis procedure**

The data obtained from this study were analyzed using both descriptive and inferential statistics. The age and gender of participants were summarized using frequencies and percentages while mean and standard deviation were used to describe domains of HRQoL. Relationship of age and gender with HRQoL was analyzed using Pearson product moment coefficient of correlation. All analyses were performed at 0.05 alpha level using Statistical Package for the Social Sciences (SPSS) version 20.0.

**RESULTS**

The results are presented in Tables 1 &2

**Table 1:** Age, Gender and Health Related Quality of Life Profile of the Participants.

|  |  |  |
| --- | --- | --- |
| **Variables** | **n (%)** | **M ± SD** |
| **Age (year)** |  |  |
| 21-30 | 35(35) | -- |
| 31-40 | 22(22) | -- |
| 41-50 | 16(16) | -- |
| 51-60 | 17(17) | -- |
| 61-70 | 10(10) | -- |
|  |  |  |
| **Gender** |  |  |
| Male | 41(41) | -- |
| Female | 59(59) | -- |
| **HRQoL** |  |  |
| GH | -- | 62.59±23.14 |
| PF | -- | 66.35±23.49 |
| RP | -- | 53.25±35.11 |
| RE | -- | 53.91±38.18 |
| SF | -- | 57.90±26.90 |
| BP | -- | 51.70±20.79 |
| ME | -- | 60.79±20.12 |
| VT | -- | 62.83±18.52 |

n=frequency within a group or subgroup, %=percentage within a group or subgroup, M± SD=mean± standard deviation, HRQoL= health related quality of life, GH- general health perceptions, PF-physical functioning, RP -role limitations due to physical health problems, RE- role limitation due to emotional problems, SF-social functioning, BP-bodily pain, ME- mental health, and VT- vitality.

**Figure 1:** Mean of the Health Related Quality of Life Domains for the General Sample

GH- general health perceptions, PF-physical functioning , RP -role limitations due to physical health problems, RE- role limitation due to emotional problems, SF-social functioning, BP-bodily pain, ME- mental health, and VT- vitality.

**Table 2: Correlations of Participants’ age and gender with Domains of HRQoL.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Age** | **Gender** | **GH** | **PF** | **RP** | **RE** | **SF** | **BP** | **ME** | **VT** |
| **Age** | 1 |  |  |  |  |  |  |  |  |  |
| **Gender** | .051  .614 | 1 |  |  |  |  |  |  |  |  |
| **GH** | -.107  .292 | .063  .535 | 1 |  |  |  |  |  |  |  |
| **PF** | -.090  .375 | -.104  .304 | .646\*  .000 | 1 |  |  |  |  |  |  |
| **RP** | -.093  .358 | -.053  .598 | .452\*  .000 | .600\*  .000 | 1 |  |  |  |  |  |
| **RE** | -.032  .751 | -.066  .516 | .500\*  .000 | .591\*  .000 | .780\*  .000 | 1 |  |  |  |  |
| **SF** | -.129  .200 | -.096  .343 | .472\*  .000 | .497\*  .000 | .684\*  .000 | .770\*  .000 | 1 |  |  |  |
| **BP** | -.097  .336 | -.158  .118 | .370\*  .000 | .439\*  .000 | .528\*  .000 | .657\*  .000 | .750\*  .000 | 1 |  |  |
| **ME** | -.026  .794 | .040  .692 | .318\*  .001 | .368\*  000 | .492\*  .000 | .540\*  .000 | .591\*  .00 | .467\*  .000 | 1 |  |
| **VT** | -.142  .159 | -.016  .876 | .431\*  .000 | .529\*  .000 | .540\*  .000 | .636\*  .000 | .595\*  .000 | .539\*  .000 | .631\*  .000 | 1 |

GH- general health perceptions, PF-physical functioning , RP -role limitations due to physical health problems, RE- role limitation due to emotional problems, SF-social functioning, BP-bodily pain, ME- mental health, and VT- vitality.

**Hypotheses testing**

**Hypothesis 1**

Age would not significantly correlate with HRQoL in patients with LBP.

The findings from this study indicated that there is no significant relationship (***p***>0.05) in HRQoL across different age groups. Hence, null hypothesis (Ho) was retained. This implies that being older or younger does not influence HRQoL in patients with LBP.

**Hypothesis 2**

There will be no significant relationship between gender and HRQoL in patients with LBP.

It was observed from this study that no significant relationship (***p***>0.05) exists between HRQoL and gender characteristics. Therefore, null hypothesis was retained, implying that gender difference does not determine HRQoL in patients with LBP.

**DISCUSSION OF FINDINGS**

This study evaluatedthe relationship of age and gender with HRQoL among patients with LBP in Kano metropolis. Most LBP patients involved in this study were between the ages of 21-30 years, while the least were of the age of 61-70 years. This might not be unconnected to the aetiology i.e. factor used in the recruitment of participants (LBP of mechanical origin) and because the age of 21-30 is a vital age of activity (especially as regards to employment status and risk of undue use of the back) could explain why most participants were within this age category. Age and gender though might have relationships with HRQoL but such relationships were not significant. They were however found to correlate poorly and inversely with HRQoL.The inverse relationships of age and gender with HRQoL suggest that younger age and being a male are associated with better HRQoL. These by implications mean that younger individuals with LBP might present with better HRQoL which of course might not be a surprise since younger age is associated with better activity level and better lifestyle characteristics. In the same way, male gender being better in HRQoL might equally suggest better activity characteristics and lifestyle factors among males with LBP in this study. These findings are supported by the findings of Van Servellen et al, (2002) who reported that female gender and old age are factors posited to influence delays in seeking treatment and, consequently, to adversely affect HRQoL. Studies conducted by Mantyselka et al (2003), Horng et al, (2005), Pellise et al, (2009), Patrick et al (1995) and Sherman et al (2007) reported that age and gender are significant correlates of HRQoL in patients with LBP thereby contrasting the findings of this study in which they were found to be insignificant. This contrasting finding might be as a result of variation in study methodology including subject characteristics, differences in measuring instruments of HRQoL etc.

**CONCLUSION**

Although age and gender associated poorly and disproportionately with almost all domains of HRQoL but they could not determine HRQoL of patients with LBP. It is therefore recommended that age and gender must not necessarily be taken into consideration during rehabilitation of these individuals. Also, HRQoL measures should be introduced into clinical practice and there is need for the training of the clinicians/ clinical staff in using and interpreting the measures.

It is expected that findings of this study:

* May help clinicians during clinical decision making by enabling them to take into consideration the physical, social and mental effects of age and gender in the management of patients with LBP thereby enhancing clinical outcome.
* Might also serve as an index to the government in healthcare and policy making as it indicates the relationship of age and gender with HRQoL among LBP individuals.
* May help to establish the most common age and gender of people who suffer LBP, thereby enabling preventive measures of the ailment.

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