



## THE QUALITY OF LIFE FOR OSTEOPOROSIS PATIENTS IN HOSPITALS OF MOH AT MAKKAH CITY: DESCRIPTIVE DESIGN 1437-1438H

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### Abstract

**Backgrounds:** Osteoporosis an important health care issue, so, many osteoporosis patients can live the healthy life, without the problems if they realize and understand how to manage themselves in a healthy way. The QOL is varying from person to person and for the nurses, it is essential that they have positive and motivational perception regarding health promotion and QOL which will play an effective role in the patient care.

**Purpose of the study:** the purpose of this study is to find the level of the eight health concept for the QOL of osteoporosis patient.

**Method and sample:** Descriptive quantitative method was used in the current study. The study population consisted of osteoporosis patients with the number 90 for each hospital (totally n= 270). The study was conducted at three governmental hospitals in Saudi Arabia at Makkah city which are King Faisal general hospital, Hera general hospital, and King Abdul-Aziz hospital.

**The Tools:** The tool used is a quality of life questionnaire prepared by the RAND Corporation “The SF-36 is a standardized questionnaire derived from a large set of questions used in the US medical outcomes study in the mid -the 1980s”.

**The Statistical Methods:** (SPSS) was used, averages and standard deviations, (t-test) per set.

**Results of this study:** The study found differences between the actual mean and assumed mean in the quality of life at the Level of a significance at 0.01 in some dimensions, Suggesting that the level of quality of life of patients with osteoporosis is higher than the average in-dimensional following (pain and social functions), medium level in the dimensions (physical functioning, health restrictions fitness, happiness, passion, public health) and less than the



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average in two dimensions (restrictions resulting from emotional problems, a variable energy and fatigue).

**Recommendation:** Coordinate and collaborate with clients, families, and the community to change and develop the lifestyle. A study should be carried out on osteoporosis education methods and recommendations to the patients through online learning, conferences for the public, and the right marketing to educate the community, patients, and caregivers to raise the quality of work, level of care and quality of life.

**Keywords:** Quality of life (QOL), osteoporosis diseases, eight health concept of quality of life.

### **Conceptual Definition**

**Osteoporosis diseases:** “The origin of the word 'osteoporosis' begins to explain the condition - 'osteo' is for bones, and 'porosis' means porous, resulting in weakness” (MacGill, Webberley & MacGill, 2015)

**Quality of life:** “ It is a broad- ranging concept affected in a complex way by the personal physical health ,psychological state , personal beliefs, social relationships” (World Health Organization quality of life [WHOQOL],1998) .Measured in the present study by a measure called 36-item short form survey from the RAND medical outcomes study.

**Eight health concepts of the quality of life:** physical functioning, role limitation due to physical health, bodily pain, general health perception, vitality, social functioning, role limitation due to emotional health, general mental health” (Rand.org, 2009).

### **Introduction**

In 1947, world health organization (WHO) explains the health by emphasizing several general qualities:” fitness is a condition of complete bodily, rational, and social happiness and not just the nonappearance of disease otherwise infirmity”. Osteoporosis is a bone illness in which the strength of bones is decreased, which results in fragile bones; it also increases the chances of bone fractures (Niams.nih.gov, 2014). The issue of osteoporosis is very common among aged persons and women are suffered more than men (Nof.org, 2016). It is estimated that 22 million females and 5.5 million males in the European countries had suffered from osteoporosis in 2012 (Svedbom et al., 2013). No doubt, Asian and white individuals are at the greater risk of bone fracture (IOF, 2015). If this condition is left uncured, it will impose a dangerous impact on the quality of day-to-day life.



Patients who are suffering from osteoporosis conditions also experience various psychological issues such as the individual with osteoporosis may become anxious and feel some changes in emotional aspects. It is very common in the case when a patient is diagnosed due to the low trauma fracture. Then the next fracture can cause serious depression. Plenty of studies show a solid relationship between depression and bone loss. The common symptoms of depression are eating too much, loss of appetite, sleeping too much, having trouble sleeping, helplessness, a feeling of uselessness, hopelessness, anxious, or even attempting suicide. Osteoporosis can also affect the self-confidence, appurtenance, posture, and appearance of the patients. It can bring prominent physical changes that develop the signs of aging. When individuals experience the physical changes due to osteoporosis, their self-esteem will automatically decrease (NOF, 2015). It is also found that there is a solid and important relationship between perception of QOL and good management of osteoporosis. The link can be modified through medication and physical exercises, where medication can formulate and produce to control the pain and exercises can design to increase the ratio if reliability and mobility. The balance between these elements will effect on the patient's QOL and self-esteem positively (Healthcentral.com, 2010).

Osteoporosis is a global issue that has been growing with the increase of older individuals all over the world. According to a conducted survey, approximately 200 million people have been suffering from osteoporosis worldwide (International Osteoporosis Foundation [IOFbonehealth.org, 2015). The ratio of patients is 9% to 38% of women and 2% to 8% of men (Wade, Strader, Fitzpatrick, Anthony & O'Malley, 2014). Regarding the risk factors for osteoporosis, a major health condition contributes to this bone disease are very low body weight, being a woman, aging, smoking, imbalanced sex hormones, and can also result as a side effect of some medications (Niams.nih.gov, 2014).

Many osteoporosis patients can live the healthy life, without the problem of bones breaking if they realize and understand how to manage themselves in a healthy way and also if their families get proper awareness to care and prevent them from bone fractures and further unwanted complications. Patients with osteoporosis usually have to deal with the fear, anxiety and negative thoughts of the reaction of breaking bones and becoming physically dependent. This negative thought normally causes several psychological reactions such as depression, anxiety, sleeping disturbances, trouble eating, social isolation, or feeling of loneliness. All these reactions are considered to be major threats to the stability of patient's life which can also impose a negative impact on his QOL (Osteoporosis.ca, 2015).



It is a major public health problem in Saudi Arabia and the contributor of mortality and morbidity among elderly people (Sadat, Al-Habdan, Al-Turki, and Azam, 2012; AlQuaiz, Kazi, Tayel, Shaikh, Al-Sharif, and Othman, 2014). According to conducted at King Abdul-Aziz University in Jeddah, it was found that the maximum medical claims are associated with the care and treatment of the patients with fractures as the result of osteoporosis conditions in Saudi Arabia which is increased to more than 20 billion riyals. And there is an expert prediction that this estimation will be increased up to the 32 billion by the year of 2030. The ratio of bone patients is very high and exceeds the limit of what is spent on the medical by the Ministry Of Health.

Earlier assessment of the disease, evaluation of QOL, and control of illness, comprehensive patient training, and appropriate plan for the advancement of the patient's lifestyle, continuing awareness and education of the patient, his/her belonging persons, his/her family will work to improve the morale of the patients toward attaining good quality life and right satisfaction for the patient. In common words, illness will lead to a decrease in all dimensions of the patient's QOL. It is due to the direct effect of the illness on the daily living routine of the patient, social interactions, and future perception. Osteoporosis is one of those major disease conditions which have a great and direct impact on the patient's QOL because it will disturb the patient's life from all the dimensions. This study support for further researches in the field of QOL of osteoporosis patients & it is beneficial to improve the hospital efficiency, quality of patient care. The Research analysis the level of the eight health concept for the QOL of osteoporosis patient.

## **Methods**

Methodology refers to the framework for conducting a study (Schneider et al., 2008). The research approach for this study is quantitative approach; the aim of this study is to assess the osteoporosis patients' QOL.



## Research Design

The golden rule for any study method is that it should be suitable for the problem under investigation (Watson & keady, 2008) and based on the research question and the purpose of the study (Schneider et al., 2008). The descriptive quantitative method was used in the current study through patients sample with Convenience sampling collected data.

## Setting

This study was conducted at three governmental hospitals in Saudi Arabia at Makkah City which are King Faisal General Hospital with total bed capacity 300 Beds, Hera General Hospital with total bed capacity 300, and king Abdul-Aziz Hospital with total bed capacity 300 beds. The major specialties in all this hospitals are surgical, medical, emergency, and general clinic. All these settings are for providing health care to the large population in Makkah city including residents of Mecca City and patients coming for Hajj and Umrah.

## Study Subject

The study population consisted of Group of patients with the number 270 according to the bed number in all the selected hospitals, determine the sample size according to the equivalent Richard Geiger, reached the 90 patients for each hospital.

The equivalent Richard Geiger.

$d = 0.05$      $z = 1.96$      $N = \text{population}$      $n = \text{sample size}$

$$n = \frac{\left(\frac{z}{d}\right)^2 \times (0.50)^2}{1 + \frac{1}{N} \left[\left(\frac{z}{d}\right)^2 \times (0.50)^2 - 1\right]}$$



### **INCLUSION CRITERIA:**

Adult patients, Sex (female and male), without Comorbid diseases, Age from (18 to up), Patients in the medical surgical department with osteoporosis diseases or have a history of osteoporosis diseases, Patients in orthopedic clinics have osteoporosis diseases.

### **EXCLUSION CRITERIA:**

Comatose patients, mentally ill patients and Pediatric patients.

## **Instruments**

To evaluate the quality of life for osteoporosis patients, quantitative data was collected by surveying selection of the participants, the researcher using the questionnaires to collected data from the selected samples according to the selection criteria by using 36-item short Form survey from the RAND medical outcomes study. “The SF-36 is a standardized questionnaire derived from a large set of questions used in the US medical outcomes study in the mid -the 1980s”.

“The RAND SF-36 item health survey (version1.) Questionnaire consists of the 2 parts, the first one personal data it includes: gender, age, scientific qualification. The second parts it includes: questions (items) measuring physical and mental health status in relation to eight health concepts: physical functioning, role limitation due to physical health, bodily pain, general health perception, vitality, social functioning, role limitation due to emotional health, general mental health” (Rand.org, 2009).

## **Methods of data collection**

Data collection for this study was done by two-part questionnaire. This part consisted of closed questions regarding demographic data and the questionnaire related to the quality of life for osteoporosis patients. After proposal approval from postgraduate studies deanship in King Saud university, the data collection journey was started by a series steps of filling application to obtain written approval from the biomedical ethics research committee at KSU and approval to collected data from ministry of health in Makkah region. After that, the arrangement was done with training and education center for each hospital, and explanation of the research aspects. Data collection takes 2 months started Jamad to Rajab 1437H.



## **Statistical analyses**

Quantitative analysis approach was used to analysis the data in this study. As stated by (Gerrish & Lacey, 2010), For quantitative data analysis the statistical package for social science (SPSS) version 21, it was used in this study, Means, standard deviations, T-test to one group with the use of the cutting point between the assumed mean and actual average (Mean),

## **Ethical considerations**

This research conforms to ethical requirements. The principles of informed consent, privacy, confidentiality and anonymity were applied in this study. The official approval was obtained from; The Head Director of Medical Surgical Nursing in Nursing College in King Saud University, KSU administration, committee of ethical consideration, The Ministry of Health (MOH) - Nursing Administration in the Makkah city, A Number of the Ministry of Health Hospitals in Makkah, including: General Director of King Faisal Hospital in Makkah, General Director of King Abdul-Aziz Hospital in Makkah, General Director of Hera Hospital in Makkah to collect data.

Ethical codes of conduct have been strictly adhered to at all stages of the study, ethical consideration have explained the aim of the study to all Participants, It took the approval through verbal consent to participate in the search by patients, It has been keeping all the information that had been taken from participants in complete secrecy, anonymity also is not used to mention the participant's name.

## **Results**

### **DEMOGRAPHIC CHARACTERISTICS OF THE STUDY SUBJECTS (PATIENTS)**

**Table (1):  
Patients sample distribution according to gender**

Gender	Number of samples(n)	Percentage (%)
male	77	28.5
female	193	71.5



Total	270	100
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Table (1) shows that the highest percentage of gender was taken by female at 71.5 % and the rest were male at 28.5 %.

**Table (2):**  
**Patients sample distribution according to age**

Age	Number of samples(n)	Percentage (%)
less than 25	9	3.3
25-34 year	47	17.4
35-44 year	93	34.4
45-54 year	92	34.1
55 above	29	10.7
Total	270	100

Table (2) shows that the largest group consisted of the patients between 35-44 years old, hitting a percentage of 34.4 % and the percentage of respondents belonging to age group 45-54 years was 34.1 %. The proportion of the sample belonging to age group 25-34 was 17.4 % while the percentage of respondents belonging to the age group 55 and above was 10.7%. The less than 25 were 3.3 %.

**Table (3):**  
**Patients sample distribution according to Qualification**

Qualification/s	Number of samples(n)	Percentage (%)
no study	15	5.6
Primary	38	14.1
Middle	27	10.0
Secondary	74	27.4
Bachelor	99	36.7
Master	17	6.3
Total	270	100 %

The previous table (3) shows that the largest in participating with percentage of 36.7 % were bachelor followed by secondary certificate at 27.4 % and the lower category were no study with 5.6 %.





**ANALYSIS FOR RESEARCH QUESTION:**

What is the level of the eight health concepts for the QOL of osteoporosis patient?

**Table (4):  
 The level of quality of life for osteoporosis patients**

ROLE	Mean	Std. Deviation	Assumed Mean	T test	p- value	The level
physical functioning	499.81	263.819	500	0.01	0.99	Moderate
role limitations due to physical health	183.70	171.027	200	1.49	0.14	Moderate
limitations due to emotional problems	129.63	126.182	150	2.66	0.01**	Under the mean
energy fatigue	175.26	68.122	200	5.97	0.001**	Under the mean
emotional wellbeing	253.26	89.296	250	0.74	0.56	Moderate
social functioning	115.56	46.019	100	5.55	0.001**	Above the mean
pain	116.37	50.050	100	5.37	0.001**	Above the mean
general health	253.89	69.308	250	0.92	0.36	Moderate
Total	1727.48	669.791	1800	1.74	0.08	Moderate

- Statistically significant at (p < 0.05).

Table

(4) presents the results of the T-test to one group with the use of the cutting point between the assumed mean and actual average (Mean), to show the level of the eight health concepts for the QOL of osteoporosis patients. It shows that some concepts were statistically significant. The concept of pain and social functioning was above the mean with the result (Mean=116.37 > Assumed mean=100) with a P-value of (0.001\*\*), &



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(Mean=115.56>Assumed mean=100) with a P-value (0.001\*\*), respectively. While (Limitations due to emotional problems and Energy fatigue), was under the mean with the result (Mean=129.63< Assumed mean=150) with a P-value of (0.01\*\*), &

(Mean=175.26<Assumed mean=200) with a P-value of (0.001\*\*), respectively. Regarding physical functioning, role limitations due to physical health, emotional well-being, and general health were in the moderate level without significant on P-values.

## **Discussion**

The level of the eight health concept for the QOL of osteoporosis patient. There are significant results with the four dimensions (Variable pain, variable social functioning, variable limitations due to emotional problems, variable energy fatigue). This significant result difference in level QOL between the highest and lowest scales. Osteoporosis is a disease leading to severe discomfort and/or Disability, and affecting different aspects of personal life with a variety of undesirable consequences, such as chronic pain, reduced physical ability and reduced social activity (Adachi JD, Ioannidis G, Olszynski WP, Brown JP, Hanley DA, SebaldtRJ, et al. 2002).

In the present study, the level of quality of life for variable pain for osteoporosis patients is high. Therefore, the health status is an absence of disability and better self-perceived health for that sample. The strategies Pain relief in all patients is a priority to raise the sense of the patient's quality of life; Pain of People is experienced differently. There are many numbers of ways to relief pain as Relaxation techniques, Meditation, Gentle massage, Applications of heat and ice, Pain medication. Pain is one of the most common medical complaints, but despite its prevalence, many individuals still suffer from unrelieved or undertreated pain.

These study various with result of A Study conducted by (Bianchi et al., 2005) described that the ratio of osteoporosis patients complaining of the chronic pain is 66% of the patients with the condition of fracture, 40% of the patients without the trouble of fractures, and 21% of the patients who have not experienced the fractures but had impaired physical mobility, poor well-being, and minimal social activities. It is also estimated that 42% of the patients had experienced depressed mood and 41% of the patients showed a decrease in the quality of their life.



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A study carried out indicated that the impact of pain on quality of life and the unmet needs of pain management results from pain sufferers and physicians participating in an Internet survey by (McCarberg, Nicholson, Todd, Palmer, & Penles, 2008). Remarkably, to determine the physical, psychological, and economic impact pain has on the lives of individuals suffering with pain, Pain sufferers were recruited through e-mail invitation to an Internet survey; 173,854 invitations were sent out, 22,018 people responded (12.7%), and 606 met the criteria for inclusion in the survey as pain sufferers. Out of the number, 247 individuals had moderate to moderately severe acute pain while 359 moderate to moderately severe chronic pain. Additionally, the results supported what many physicians observe in their practice and hear from their patients, that pain has a negative impact on daily activities in the majority of pain victims. Most of the chronic pain victims said that the pain had deleterious effects on their employment status, personal relationships and mental health. The unmet needs and the impact of pain on patient quality of life were identified by a majority of the physicians.

Patients with osteoporosis often have some problems in their life activities such as taking a shower, preparing meals, gardening, walking stairs, visiting friends and attending social activities. Increased risk of bone fracture, physical deformity, and pain may affect interpersonal relationships and the performance of social roles, thereby disturbing the psychological status in osteoporosis (Coelho R, Silva C, Maia A, Prata J, Barros H, 1999). Most of the studies are not consistent with the present study, where she describes affected by osteoporosis patients with pain.

Pain and disability may also influence life quality and lead to psychological disturbances, but according to present study, The Variable social functioning it's above the mean for dimensions that is related to higher scores represent better self-perceived health. Social support is defined as the amount of affection, companionship, and care from family members, friends, and other individuals (Hodge, English, Giles, & Flicker, 2013; Sok & Yun, 2011). Huang et al., 2014 hypothesizes that improved social support is said to be associated with individuals with OP who have lower pain, improved QOL and who are considered to have better QOL. While this result varies with the results of a survey carried out involving 214 elderly patients who were divided into two groups which were normal elderly patients (case group, n = 112) and (case group, n = 112) for elderly patients with primary osteoporosis.

A comparison between the social support and quality of life was done for the two groups. The score of variables such as bodily pain, vitality, social functioning, general health, physical functioning, role-physical, mental health and role-emotion the case group were lower than those



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in the control group ( $P < 0.01$ ). The subjective, objective and utilization support, as well as the total scores in the case group, were reported to be lower than those the control group. There was a positive correlation between social support and quality of life in the case group ( $r = 0.672$ ,  $P < 0.01$ ). The two coefficients, however, were seen to be lower for elderly patients with osteoporosis in Chin than the elderly with no osteoporosis; however, they were positively correlated. From the studies carried it was evident that there was the need to increase efforts in improving the social support and quality of life in elderly osteoporosis patients in China. (Ma et al., 2015) states that further researches should be carried out to determine factors that contributed to the observed association between the outcomes and the risk factors. It is noted that most studies tend to predispose to depression via limiting in social leisure activities for osteoporosis patients. It is not compatible with the current outcome of the study. But I agree with this conclusion because the research sample collected in Saudi Arabia as it's known as the environment and Saudi society have a high a sense of social communion.

The Variable limitation due to emotional problems and variable energy fatigue has the presence of a negative state of health in this study with the lower score and that indicate worst QOL. The conditions affecting individuals' everyday activities are dependent on the thoughts and feeling about osteoporosis, it was reported that for the people who had reported about a change in their lives was slightly changed or not changed, the osteoporosis had not affected them emotionally. Additionally, others reported that their diagnosis had improved as they continued learning about the condition and the means to manage it. Notably, pro-active attitude and positive thoughts have helped most individuals deal with physical problems. According to (Adachi et al., 2002),

The alleviation of the psychological stage of the osteoporosis patients is possible through the assessment of the QOL of the patients. Evaluating the functional changes and understanding the common health conditions that will support in designing better osteoporosis treatments, the reversing bone loss, improving patient health, and reducing the risk of bone fractures will be gained (Madureira, Ciconelli & Pereira, 2012). People with osteoporosis usually have some difficulties in the life activities for example taking a bath, preparing meals, cultivation, walking climbing stairs, staying with friends and joining social activities. The Augmented danger of bone break, physical deformity, plus pain may distress interpersonal relationships plus the presentation of social characters, thereby troubling the psychological position in it (Coelho, Silva, Maia, Prata & Barros, 1999). Discomfort and disability might also influence lifespan quality and the clue to psychological turbulences.



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According to the outcomes of a training conducted to estimate the Osteoporosis plus Health-Related worth -of-Lifespan Consequences as in Alameda County Study Population, here seems that people having osteoporosis are on higher danger of developing glitches with physical infirmity and difficulties in activities of everyday living, and could be at danger for reduced worth of life in terms of hanging out for enjoyment and relishing free interval. So, Care must be taken in order to uphold the excellence of life intended for people with it by serving them to retain as physically practical as imaginable( Kotz, Deleger, Cohen, Kamigaki, & Kurata,. 2004).

(Health and Bone.ca, 2016) articulates that Osteoporosis is a chronic illness with potentially life-altering consequences when not managed properly and is has become a major concern in Canada. Additionally, the disease affects people in various ways and some of the potential effects include; limitations in the ability to work and to enjoy leisure activities, feelings of anxiety or depression, changes in relationships with family and friends, and poor self-image. On the other hand, women with osteoporosis have been reported to have symptoms such as; feelings of fear, depression, and anxiety which contribute to feelings of isolation. Nevertheless, fragility fractures can lead to physical deformity. Such deformity is indicated by a curve in the upper spine known as kyphosis. This deformity may make an individual felt uncomfortable as a result; one may develop a poor self-image.

According to study result the value of measuring individuals' experiences of their health-related quality of life by making use of the SF-36 questionnaire, is comprehensive. Specific problems, per health-related quality of life indicator, can be identified and, based on these findings; interventions can then be done in order to improve individuals' quality of life. the results of the SF-36 questionnaire allows one to appreciate why people behave as they do base on their perceived experiences of their quality of life, it is a tool to influence people in improving their quality of life and, it can act as an assessment of whether or not interventions were successful.



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