**Original Article**

# QUALITY OF LIFE AMONG PATIENTS WITH OSTEOARTHRITIS

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## ABSTRACT

**Background:** Osteoarthritis is a prevalent joint disease, affecting 80% of patients with mobility limitations and 25% of daily activities. As the disease progresses, functional limitations worsen, compromising daily living and affecting work, leisure, and social relationships. **Aim:** To determine the perceived quality of life related to health in patients with osteoarthritis, and to correlate it with their functional capacity. **Patients and Methods:** The study was a cross-sectional analytical investigation in which 166 individuals with OA were selected at random from the outpatient rheumatology and orthopedic clinic in Mosul, Iraq. March 2022 until May 2022. The 24 items in four areas of the questionnaire were used to measure the patients' quality of life (QOL). **Results:** There were 166 participants in all, 145 of them were female. 11 percent of patients were under 30 years old, 44 percent were between 31 and 59, and the majority (45%) were over 60. It was found that 145 cases, or 87% of the total, were female. Out of all the patients with OA, 25.9% had been with the condition for more than five years, 66 had been with it for one to five years, and 57 had been diagnosed with it in less than a year. **Conclusion:** Obese individuals with OA often have low quality of life, particularly in functional capacity, limitations, and pain. The study found a strong association between BMI and quality of life, with higher disability levels resulting in lower perceived quality of life.

**KEYWORDS:** Quality of life, osteoarthritis, Rheumatic diseases.

## INTRODUCTION

The most prevalent joint condition in the world is osteoarthritis (OA). Twenty-five percent of OA patients are unable to conduct the major daily tasks of life, and 80 percent have some degree of mobility restriction.[1] OA is a significant condition in health policy issues due to its high and increasing prevalence as well as its moderate to severe impact on disability.[2] Although there are few research relating to OA and mortality, it has been proposed that OA in general may indicate a shorter life expectancy.[3] Defective integrity of the articular cartilage[4] is the hallmark of this condition, which can affect any joint but is most common in the hand, knee, hip, and spine.

Osteoarthritis affects younger individuals and society economically, with functional limits deteriorating as the illness progresses. This leads to reduced joint range, discomfort, and impaired social, professional, and recreational connections. Factors such as age, education, joblessness, afflicted joints, prolonged osteoarthritis, and numerous comorbidities significantly impair the quality of life of patients with osteoarthritis.[5,6]

There are two ways to assess quality of life (QOL): 1) using a generic tool that would determine how the disease affected the patient's overall health, or 2) using a tool that would only measure how the disease affected the QOL domains that were directly impacted by the disease. Numerous studies have shown that decreased mobility, increased discomfort, muscular imbalance, and restriction of general functionality may all directly contribute to an individual with osteoarthritis experiencing a decline in their quality of life.[7-9]

Because it impairs locomotive skills including walking, standing, sitting, and climbing or descending stairs, OA typically results in severe chronic pain and makes it harder to carry out everyday tasks.[10,11] Reduced quality of life is a result of increasing physical restrictions and impairment.[12] In addition to impacting quality of life[14], pain after OA also affects well-being through depressive

symptoms, anxiety, and progressive tiredness[13] Older adults with OA experience pain, exhaustion, and depression, leading to a need for new evaluation techniques. Previously, joint range of motion, pain level, and radiographic disease severity were used, but evidence suggests these measures are accurate and responsive.[15,16]

These measurements are intended to evaluate the patient's experiences with sickness. They complement conventional clinical and biochemical indicators of health status and have a variety of uses in OA. Recent suggestions at OMERACT III have incorporated QOL and functional impairment evaluations, which are being utilized more and more as endpoints in treatment trials and evaluation studies.[17] They offer epidemiologic information on the natural history of OA and might support clinical judgment and patient treatment.

## PATIENTS AND METHOD
*Study Design:* The study was conducted as a (cross sectional study) at the rheumatology private clinic in Mosul city in Iraq.

*Data Collection:* A cross-sectional analytical research was conducted during which 166 OA patients were selected at random from the private rheumatology clinic in Mosul, Iraq. From March to May of 2022. In order to evaluate the patients' quality of life, a questionnaire including 24 items in four domains—physical activities (3 items), mental health (1 item), pain (5 items), social functioning (2 items), and 13 independent items—was used. There is a yes-or-no closed-ended question for every item. The researcher conducted a separate interview with each patient to complete the questionnaire.

(A) Three questions on mobility, stiffness, and exercise were used to gauge physical activity.
(B) Five questions concerning joint discomfort, if pain worsens with movement, difficulty falling asleep due to pain, night pain, and stomach pain were used to gauge pain.
(C) One question concerning feeling melancholy, unhappy, anoxic, or because of pain was used to gauge mental health.

(D) Two questions about function impairment and job change were used to assess social function.
(E) Four additional questions about the use of painkillers, length of complaint, other illnesses, and therapy were asked.

An ordinary weighing scale was used to determine the patients' weight. The patients' height was measured from the heel to the top of the crown while they were standing straight and barefoot. Each patient's BMI was determined using the following formula: weight (kg)/[height (m)]$^2$. BMI was classified as normal, overweight, or underweight.

*Statistical Analysis:* First, a normal distribution check was performed on the variables. Afterwards, tables were used to display the data. Variables for the analysis were age, gender, marital status, education level, and primary employment. Quality of life was the characteristic that the questionnaire measured. When it came to categorical variables, the chi-square test was used to determine the relationship between them. A significance threshold of $P < 0.05$ was used inside the model. Data analysis and interpretation were conducted using an O/S Windows Excel 2016 database. The material was made easier to grasp by using tables and graphs to demonstrate the results.

*Ethical Consideration:* This study has been approved by Scientific Research Ethics Committee (SREC) of pharmacy college in Al-Kitab University (No. R009-2021).

## RESULTS
There were 166 participants in all, 145 of them were female. Information on sample characteristics is included in Table 1. 11 percent of patients were under 30 years old, 44 percent were between 31 and 59, and the majority (45%) were over 60. Regarding gender, 145 patients (87%), or the majority, were female. When questioned about changing jobs, 31.3% of patients (40.6%) said they were employed. Joint restriction was seen in 51.8% of the patients. Of the total number of patients with OA, 25.9% had been diagnosed with the condition for more than five years, followed by 66 with one to five years, and 57 with a diagnosis within a year.

**Table (1): Socio-demographic characteristics of OA patients (N=166).**

| Characteristics | | Number/166 | (%) |
|---|---|---|---|
| Gender | Male | 21 | 13% |
| | Female | 145 | 87% |
| Age | <30 | 19 | 11% |
| | 31-59 | 73 | 44% |
| | >60 | 74 | 45% |
| Education | higher education | 74 | 45% |
| | School education | 82 | 49% |
| | Not educated | 10 | 6% |
| Occupation | Sedentary work | 26 | 16% |
| | Physical work | 32 | 19% |
| | House wife | 45 | 27% |

| | Unemployed | 63 | 38% |
|---|---|---|---|
| Marital status | Married | 146 | 88% |
| | Single | 20 | 12% |

There was a statistically significant difference between duration of arthritis and job change with a p-value of 0.03. Eleven patients with a duration of arthritis less than 1 year change their job. While 21 patients with a duration of arthritis between 1-5 change their job and in patients with duration of arthritis more than 5 years 18 patients change their jobs, as shown in table (2).

**Table (2): Association between duration of arthritis and job change (N=166).**

| Job Change | Duration of Arthritis | | |
|---|---|---|---|
| | <1 | 1-5 | >5 |
| Yes | 11 | 21 | 18 |
| No | 46 | 46 | 24 |
| p-value* | 0.0396 | | |
| *Chi square test* | | | |

In table (3), there was a statistically not significant P value between type of treatment and joint pain With a P value of 0.09. Eighty nine of patients treated with painkiller had joint pain followed by 9 patients treated with steroid injection had joint pain and 2 patients treated with joint replacement had joint pain, and 52 patient with life style modification had joint pain.

**Table (3): Association between joint pain and type of treatment (N=166).**

| Joint Pain | Type of Treatment | | | |
|---|---|---|---|---|
| | Life Style Modification | Pain Killer | Steroid Injection | Joint eplacement |
| Yes | 52 | 89 | 9 | 2 |
| No | 8 | 4 | 1 | 1 |
| P-Value* | 0.095 | | | |
| *Chi square test* | | | | |

There was a significant p value of 0.001 between BMI and functional disability, 50 overweight patients' does not have functional disability and 58 overweight patients has functional disability. while 9 underweight patients do not have functional disability and only 1 underweight patient has functional disability as shown in table (4).

**Table (4): Association between functional disability and BMI (N=166).**

| Functional disability | BMI | | |
|---|---|---|---|
| | Normal weight | Under weight | Over weight |
| No | 32 | 9 | 50 |
| Yes | 14 | 1 | 58 |
| p-value * | 0.001 | | |
| *Chi square test* | | | |

A non-significant p value of 0.088 between mental state and exercise 23 patients had depression and answered yes when asked about exercise and 86 patients who had depression answered no when asked about exercise, as demonstrated in table (5).

**Table (5): Association between doing exercise and having depression (N=166).**

| Doing exercise | Having depression | |
|---|---|---|
| | Yes | No |
| Yes | 23 | 6 |
| No | 86 | 51 |
| p-value * | 0.088 | |
| *Chi square test* | | |

Table (6) demonstrated that there was a significance p values of 0.044 between taking pain killer daily and having stomach aches, 66 patients who were taking pain killers have stomach aches while only 10 patients who were taking pain killer daily does not have stomach aches.

**Table (6): Association between taking painkillers daily and having stomach aches (n=166).**

| Taking pain killers daily | Having stomach aches | |
|---|---|---|
| | Yes | No |
| Yes | 66 | 10 |
| No | 86 | 4 |
| p-value * | 0.044 | |
| *Chi square test* | | |

## DISCUSSION

Of all the rheumatic disorders that have been recognized, OA is the oldest. An estimated 10% of those over 60 are reportedly affected. Although it can affect any joint, the knees and hips are typically affected.[18]

The aging process and OA are related. Undoubtedly, as people age, the prevalence of OA rises. The cumulative effect of articular changes that occur with aging, including trauma, microtrauma, decreased joint strength, cartilage thinning, proprioception issues, and oxidative stress, is a likely explanation for this circumstance.[17] According to several studies, OA is more common in people over 60. The study's average age was above 50, and the incidence was greater among patients between the ages of 55 and 65, indicating that OA peaks in occurrence in the elderly.[19,22]

In terms of gender, women were more prevalent overall, and this may be explained by a number of variables. According to certain theories, some conditions that are more common in women, such greater obesity rates, decreased muscle tone, and more frequent joint hypermobility, cause different degrees of joint instability that encourage the development of recurrent microtrauma and permanent joint injury.[23]

The purpose of this study was to confirm, using a questionnaire, how individuals with osteoarthritis perceived their quality of life. According to our findings, people with osteoarthritis have a poor opinion of their quality of life, particularly when it comes to pain, functional restrictions, and functional capability. Functional capability as evidenced by work change: There was a correlation between the length of the OA and the decline in functional capacity, which is represented by retiring or switching to simpler occupations.

Painkiller side effects (such as stomach ache) were common and had an impact on the quality of life of OA patients. This study also considered treatment side effects as a variable to quantify the quality of life of OA patients. Although the stomach and duodenum's acid-contact regions are the most crucial, it is now recognized that intestinal injury can also extend to some extent from the esophagus to the rectum. The risk of a major gastrointestinal bleeding or perforation is doubled or tripled when using NSAIDs.

NSAIDs may be responsible for up to 30% of all ulcer complications in populations where their usage is very high, and the risk rises with age and prior ulcer history.[24]

Of the patients in our research, only 23 exercised, and 86 who did not exercise had depression and, as a result, a terrible quality of life. The finding was not significant since physical activity levels are extremely low in Iraq; according to a research conducted in Duhok, Iraq, only 39.5% of the population would be deemed physically active and satisfying health standard.[25] In OA patients, lifestyle choices and typical social determinants of health, including poor physical activity, unhealthy weight, and low socioeconomic and educational levels, were found to negatively affect quality of life (QOL).[26]

The perception of men was often lower than that of women. The effects of aging are more obvious in men, even though it is more common in women. The buildup of joint injuries from work or prior sports activities might be a likely explanation. Furthermore, injuries to the hips and knees, which are more common in men, make it harder to carry out everyday tasks. Additionally, because the hips and knees bear weight, any injuries to these joints significantly lower one's subjective quality of life.[27-29]

## CONCLUSION

People with OA perceive their quality of life to be low in the areas of pain, functional restrictions, and functional capability. Women aged 55 to 65 made up the greatest portion of our sample, accounting for 87% of the participants in our study. The relationship between BMI and quality of life is rather substantial. People with functional disabilities are overweight, and their subjective quality of life decreases as their handicap increases. Therefore, as compared to normal people, obese patients have a lower quality of life. A bad view of their quality of life resulted from stomachaches experienced by patients who were using painkillers on a regular basis.

As the duration of the disease increases, the research participants' employment change, which is another way that OA affects QOL. The greatest advice for patients looking to enhance their quality of life is to reduce the amount of pain medication they use on a daily basis, engage in regular exercise, and lead a healthy lifestyle.

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