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ASSESSMENT OF QUALITY OF LIFE IN PATIENTS WITH KNEE OSTEOARTHRITIS- A RANDOMIZED CONTROLLED TRIAL

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Abstract:
The most prevalent health hazards in the worlds population is chronic diseases of musculoskeletal system. Out of these the major public health issue is knee osteoarthritis which is related to age. It is defined as degenerative joint disease which occurs due to wear and tear consequently in progressive loss of articular cartilage, functional impairment, disability and ultimately decreasing the quality of life of individual. Population above 60 years old about 10% commonly complain of this condition. Whereas in United States population over age 60 years about 37% present with diagnosed knee osteoarthritis. Due to aging of world population, it has been estimated that in 2025 the prevalence of KOA will rise to 40%. The factors which are responsible for worsening of the condition are gender, age, trauma, overuse and genetic conditions. The study has concluded that participants having knee osteoarthritis having low quality of life in the domains of functional capacity, pain and functional limitation. Moreover, there was a strong association found between the level of education and low quality of life. It corelates with the factor that participants with low level of education are more engaged in higher physical activity and higher impacts. As the disease progress it further affects the quality of life hence resulting in disability.

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INTRODUCTION:

The most prevalent health hazards in the world's population is chronic diseases of musculoskeletal system. Out of these the major public health issue is knee osteoarthritis which is related to age. It is defined as degenerative joint disease which occurs due to wear and tear consequently in progressive loss of articular cartilage, functional impairment, disability and ultimately decreasing the quality of life of individual. Population above 60 years old about 10% commonly complain of this condition. Whereas in United States population over age 60 years about 37% present with diagnosed knee osteoarthritis. Due to aging of world population, it has been estimated that in 2025 the prevalence of KOA will rise to 40%. The factors which are responsible for worsening of the condition are gender, age, trauma, overuse and genetic conditions. The synovium, bone and hyaline cartilage are most affected tissue in osteoarthritis. It is a joint disease that begins with cartilage degeneration and gradually affects periarticular soft tissues and the subchondral bone, producing chronic inflammation with synovitis, osteophytosis, loss of joint space, bone remodeling and ultimately, it progresses to severe and irreversible joint destruction. Participants who are suffering with knee arthritis are more prone to get physical limitation with the progression of disease, pain and functionality limitation. This progression impact on their activities of daily life which leads to isolation from social life and affect their mental health equally. Therefore, a very important factor which is needed to evaluate in KOA patients is the quality of life of these individuals. The quality of life has described according to World health organization as any individual's perception of his/ her position in life in the context of the culture and value systems in which he lives and in relation to his goals, expectations, standards and concerns

Previous studies have evaluated the quality of life in patients with knee osteoarthritis. The aim of the study is to evaluate the quality of life of a group of patients with knee osteoarthrosis.

METHODS:

It was a cross sectional study in which 105 participants were recruited who met the inclusion criteria. Non probability sampling method was used. The inclusion criteria were individuals having unilateral or bilateral diagnosed osteoarthritis with the age ranging between 40 to 65 years old, with no neurological disorder, both genders, no previous trauma history of lower limb and any red flag sign. Participants who were having any cognitive impairment, central nervous alteration, who had any previous trauma or surgery of lower limb or any other musculoskeletal disease such as rheumatoid arthritis or any metabolic disease were excluded from the study. The purpose of the study was explained to the participants before giving the informed consent. The Ahlbäck classification of osteoarthritis was later defined into categories: mild/moderate and severe. Mild/moderate degree was regarded as Ahlbäck's grade 1, 2 and 3 (generally with conservative treatment indication), and serious as Ahlbäck's grades 4 and 5 (indication of surgical treatment). SF-36 was used to evaluate the quality of life. The numerical data was presented in mean and standard deviation whereas categorical variables were presented in the form of frequency tables. In case of categorical variables, the association between dependent and independent variables were evaluated by using chi-square test. For comparison of numerical variables students t-test and ANOVA were used. The statistical difference was less than 5%.

RESULTS:

105 participants were recruited in the study. The mean age of the participants was 57.2 whereas the duration of the diagnosis of the condition was 8 years. There was statistical difference between male and female group. Females were more prone to knee osteoarthritis than female. The level of education was showing remarkable difference in the areas of functional capacity and functional limitations and pain. Educated participants had scored better than less educated participants. Whereas in occupation characteristics there was also statistically difference due to level of physical activity in the individuals. Active participants had less severity of knee arthritis as compared to retried ones. 48% participants were having severe knee osteoarthritis whereas 45% were having mild condition. Females with more age were having severe condition as compared to males. The three dependent variables were analyzed via multivariate analysis which include functional capacity, pain and functional limitation. Degree of osteoarthritis, age, time of osteoarthritis diagnosis, gender, level of education, religion, oc-cupation and marital status were selected as covariates. There were no independent predictor factors on the dependent variables func-tional limitation and pain, however, the only predictor in functional capacity was level of education with P <0.001.

DISCUSSION:

The aim of the study was to evaluate the quality of life in patients with knee osteoarthritis through SF-36 questionnaire. The study has shown that participants with knee osteoarthritis has decreased perception of the quality of life specially in the section of functional capacity, functional limitation and pain. It has also

shown that there was a strong relation between low education level and decreased quality of life in the participants. The participants mostly reported being retired (68%) and there was a statistically significant difference between active and retired participants. There was a remarked difference between active and retired participants. In the section of functional capacity domain of SF-36 form active participants were more as compared to the participants who were living sedentary life. 52% of participants were showing diagnosis of severe osteoarthritis which was indicating surgery according to the classification. The profile of the sample showed a higher number of female individuals. The study has shown higher number of females were suffering from knee osteoarthritis. 72% of women were presented with KOA. This study findings indicate with published findings that show that osteoarthritis of the knee has a higher incidence and prevalence in females. There was no difference in quality of life assessed by SF-36 in both genders. The mean age was 57.2 ± 10 years old with the average time of diagnosis of the disease (8.1 ± 7.6 years) is worrisome. These findings indicate that early manifestation of symptoms which has direct impact on reduced severity, improved treatment outcomes and less cost. Another important factor of the study was the evidence of statistically difference between the level of education and sub domains of SF-36 questionnaire which are functional capacity, pain and functional limitation. Participants with higher education had scored better in functional capacity as compared to the participants having less or basic education. The study has shown that functional independence is directly proportional to the level of independence.

Multivariate analysis also confirms this finding by showing that the level of education worked as the only independent predictor of functional capacity in the patients studied.

Literature has shown a positive relation between level of education and prevalence of knee osteoarthritis. A study conducted by Alkan et al has shown that almost 70% of the participants of the study were having low middle education which resulted in poor quality of life in the group. Another study has given similar founding that less education level could increase the chance of having osteoarthritis up to twice and therefore less quality of life. According to some studies participants with less education have more physical activity in terms of their occupation. In the same study, as well as low education, other risk factors for developing osteoarthritis were age over 60, obesity, physical labor and feminine gender. The functional capacity domain has declared that participants with severe degree of osteoarthritis has worse score. Previous studies have stated that the greater the degree of osteoarthrosis, the lower the perceived quality of life for individuals with this joint disease. As this is an open cross-sectional study, it was not possible to determine the impact of all variables as compared to the general population. Some of the other variables which were not included in the study could have considered as confounding factors which are as body mass index, profession, level of physical activity, family history, and comorbidities. Although it was not the aim of the study and covering all the aspects would complex variables influencing osteoarthritis.

CONCLUSION:

The study has concluded that participants having knee osteoarthritis having low quality of life in the domains of functional capacity, pain and functional limitation. Moreover, there was a strong association found between the level of education and low quality of life. It corelates with the factor that participants with low level of education are more engaged in higher physical activity and higher impacts. As the disease progress it further affects the quality of life hence resulting in disability.

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