Health-related quality of life among patients with osteoarthritis: A review of literature

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ABSTRACT

Background and objective: Osteoarthritis (OA) is a more common disease that effects the joints in the world and it is more prevalent with increasing age, and is most common in old people. Quality of life (QoL) is defined as a set of values and culture that is aligned with an individual's aim and in accordance with their expectations, living standards, and hobbies. This work aimed to review the literature measured on QoL and the relationship of its variables with osteoarthritis.
Method: These articles are introduce depending on random electronic research that take place in certain databases like MEDLINE, EMBASE, and Cochrane. Only published works for the last twelve years between 2010 and 2022 years were included.
Result: Only 20 published works were included after abstract screening. The OA is one of the chronic diseases that affect QoL in term of disability, loss of physical activity, impair daily activity, and loss of social life. The WHOQOL and WHOQOL-BRIF are more appropriate to detect the QoL. The body mass index is one of the importance indices related to the patients with osteoarthritis.
Conclusion: OA is affecting the QoL and common in elderly female. They are many scales for detect the QoL, they are either related to the global QoL as in WHOQOL and WHOQOL-BRIF or to the health QoL. The global scales are more significant and valid in dealing with QoL in chronic disease.

Keywords osteoarthritis and quality of life, assess the quality of life in osteoarthritis patients

جودة الحياة المتعلقة بالصحة بين مرضى هشاشة العظام: مقال مراجعة المنشورات

الخلاصة:
التهاب المفاصل التنكسي أو الفصال العظمي: هو أكثر أنواع الالتهاب شيوعا في العالم ويعتبر هذا المرض واسع الانتشار في كبار السن إي انه يزداد مع مرور العمر.انجودة الحياة هي مجموعة من القيم والثقافات التي تتماشى مع هدف الفرد وفقا لتوقعاته ومستويات معيشته وهواياته . يهدف هذا العمل إلى مراجعة البحوث والمقالات التي تقوم بتقييم نوعية الحياة بوجود مرض التهاب المفاصل التنكسي.
الطريقة: تؤخذ هذه المقالات أو البحوث بالاعتماد على البحث الالكتروني العشوائي التي يتم خلال قاعدة البيانات مثل MEDLINE ,EMBASE و Cochraneتضمن العمل مايقارب الاثنى عشر سنة من السنة 2010 إلى 2022
النتائج : 20 بحث أو مقالة فقط تضمنت ضمن هذا العمل بعد الفحص لملخصات البحوث أو المقالات . التهاب المفاصل التنكسي هو من الإمراض المزمنة الذي يؤثر على جودة الحياة من حيث الإعاقة وفقدان النشاط البدني وإعاقة النشاط اليومي وفقدان الحياة الاجتماعية . المقياس WHOQOLو المقياسWHOQOL-BBRIF تعتبر من أكثرالمقاييس ملائمة المفصل التنكسي.

الاستنتاج: مرض التهاب المفاصل التنكسي هو احد الإمراض الذي يؤثر على جودة الحياة وخاصة في النساء وكبار السن . يوجد عدة أنواع من المقاييس لتقيم جودة الحياة بعضها مقياس عالمي مثل والبعض الأخر مقياس متعلق بالصحة . يعتبر المقياس العالمي أكثرأهمية في تقييم جودة الحياة في الأمراض المزمنة.

الكلمات المفتاحية: تقييم جودة الحياة في الأشخاص المصابين بمرض التهاب المفاصل التنكسي

INTRODUCTION

Osteoarthritis (OA)is a degenerative chronic joint disease of the musculoskeletal system, with different etiologies but has the same biological, morphological, and clinical features. The disease affects articular cartilage, subchondral bone, synovium, capsule, and ligaments(1).OA is the most common disease that affects the joints in the world. It is more prevalent with increased age, and most common in old people, also many studies showed that over 80% of people over 55 years have OA in both genders(2).Knee-OA is more common compared with other joints that its incidence (in both genders)increase with age and body mass index (BMI)(3).The most common symptom of OA is pain around the joint. Pain can be dull, sharp, constant, or intermittent (off and on)The range of motion can be decreased.Swelling, locking, and giving way of the knee are common symptoms(4).

Quality of life (QoL) is defined as a set of values and culture that is aligned with an individual's aims and in accordance with by their expectations, living standards, and hobbies. According to experts numerous factors influence the QoL of an individual with OA which include gender, education level, income, occupation, and the intensity of disease and symptoms experienced are all factors that influence, as are environmental factors such as the availability of proper health and medical services and access to health facilities(5). QoL cannot be measured solely by seeing more detailed information that must be obtained through interviews and instrumentation. There are numerous types of measure instruments to determine a person 'QoL that have been developed(6).

People with OA, in particular may be limited in their ability to daily activity, functional capacity, and function constraints because of the joint pain. pain is a leading source of impairment in a person with OA and disabilities which are usually manifested by difficulty in walking, climbing stairs, performing household chore, and sitting upright and a have negative psychological impact, all of which can lead to a decrease in QoL(3,6).

OA is said to be a major health issue for the world's aging population which reduces QoL and causes a variety of issues such as disability, weariness. Also, OA may affect to the person's mental health, anxiety, sleep disturbance ,and depression in addition to that, poor treatment outcomes and increase medication, which may lead to decrease QoL(7).In 2013 for example, Berat Alkan et.al.(8) conducted a study to assess the QoL in OA patients using the Kellgren Lawrence score, and SF-36 was utilized for QoL and concluded that patients with OA have poor QoL. In 2017Haxby Abbottet.al (9)in New Zealand perform a study to assess the health loss and QoL in patients with knee OA in quality- adjusted life years this study was concerned with the OA policy model that was used to assess the QoL in the New Zealand population in addition to the EQ-5D, the authors concluded the osteoarthritis decrease QoL in OA patients and the prevalence of female more than Male. In

Iraq, to the best of our knowledge, there is no published articles that assessed the association between OA and QoL. Thus, the aim of this work is to review the literature published on QoL and its relation to osteoarthritis.

METHOD:

MEDLINE, and Google scholar were used as a basic database for searching. The keyword was QoL and OA or assessment of the QoL in OA. The data that extracted include authors', and year of the studylocation of data collection, study design, sample size, type of the QoL scale used. Only published works for the last twelve years between 2010 and 2022 years were included. Selection criteria: the article which acceptable have the following criteria this include: an article that includes adult patients of both gender, article when their patients are primary OA, and an article that their patients have clear diagnostic criteria of the OA.

Articles with secondary OA, total hip or knee replacement, review articles, and papers that included rheumatoid or gouty arthritis were excluded.Abstracts only publications or those published in non-English language were also excluded. Articles collecting data from those with debilitating diseases were also excluded. 50 articles were primary identified, and only 20 published works included after abstract screening.

Osteoarthritis and quality of life outcomes

In 2013, Kwanol et.al.(10) conducted a study to evaluate the QoL among patients with knee OA in the out-patients department of Santa Izabel hospital. Brazil. this was a cross-section study of 93 participants of both genders. SF36was the tool for QoL assessment in which three groups were explored. Kwanol et. al. concluded that education and level were linked to the functional capacity.

In the USA, Boston in 2015,Kieran F. Reidet et.al.(11) Perform a study to detect the relationship between extremity muscle strength and power and OA patients. WOMAC scale was used to assess the signs and symptoms of the disease. SF-36 scale was an instrument of the QoL with participated 190 OA persons. The finding of this study is there is no relationship between muscle power and QoL although OA itself decrease QoL. In 2013, Berat Alkan et.al.(8) were conducted a study to assess the QoL in OA patients with a sample size 112, Age ,BMI, and sex. Kellgren Lawrence scores were recorded, SF-36 was utilized for QoL, WOMAC for disability, VAS for pain and the Lequesne index also used the study concluded that patients with OA have poor QoL.

However, the sample size that is taken in both studies is small. the age is satisfied in both study SF36 scale was used in both study is good that deal with functional capacity,pain, and general health, but does not measure the quality of sleep which important indicator of health and most patients of the OA have nocturnal pain and it may lead to sleep disturbance in addition it is not very suitable for geriatric population group, especially those age 65 where most OA patients are elderly patients(12).

Mehmet Aksekili1 et.al.(13) were implemented a study in YıldırımBeyazıt University, Ataturk Education and Research Hospital, Turkey in 2015. this was cross section study done to assess the QoL in knee OA patients. with a sample size 105 participator in all .A total of 50 healthy controls of the same sex and age as the participants were included in the study.Nottingham Health Profile (NHP) scale was used to assess the QoLof all patients and controls. The Knee Injury and OA Outcome Score (KOOS) was utilized to evaluate disability in OA patients. The Visual Analog

Scale (VAS) was employed to measure pain. Mehmet Aksekili1 et.al. found the Patients with knee OA had a significantly worse QoL as compared to healthy once.

Zeinab O. Nawito et.al.(14)in Egypt 2018perform a study to assess the QoL in primary OA and the relationship between radiological and clinical diagnosis of by using Kellgren- Lawrence score. NHP scale for QoL. VAS was a tool for pain and ROM for physical activity and range of the knee joint motion. The sample size is 50 patients of both genders, the study finding was the NHP scale is using in to assess the QoL in Egyptians OA patients this scale is a descriptor the pain and other domain of the QoL.

Since the QoL, scale NHP that use in both articles is reliable but it does not provide relative importance weighting across the dimension. and it does not deal with many components of the QoLas emotional part, environmental part, and the psychological part which are important in the QoL in OA patients. The sample size in both studies was small. Although the VAS scale deal with pain intensity, pain-related impairment, pain duration, and pain affect. But the KOOS scale and Kellgren-Lawrence scores are given a good idea about pain, stiffness of the joint and other symptoms of the OA, they are still more valuable, reliable, and more specific to OA than VAS.

In Morocco, in 2016 Laila Mahi et.al.(15) accomplished research to provide the aim of their study which was to review the QoL for patients with knee OA. it is a 6-month descriptive prospective research of 30 knee OA patients gathered at the Ibn Rushed University Hospital in Casablanca, Morocco, in physical medicine and functional rehabilitation. The patients underwent clinically and par clinical examinations. visual analogue scale (VAS pain), the functional Lequesne score and the WOMAC for pain and severity of disease andSF36 scale for QoL were used. the research concluded that OA is one of the ten most disabling disorders in developed countries, and due to rising life expectancy and aging populations, it is anticipated to become the fourth leading cause of disability by 2020. Knee OA is an arthritic condition that affects the knee joint. Knee OA is the most common arthritic site.

In China 2015, Pang J, Cao YLet. al.(16) conducted their study on OA and QoL. this cross-sectional study was doneto examine the relationship between pain other symptoms intensity, and health-related QoL (HRQoL). The sample size is 466 who record their age, gender, BMI, and duration of the disease. WOMAC and SF-36 scales are descripting the symptoms, pain intensity and the healthy related QoL respectively in OA patients. also use the Kellgren-Lawrence scale

However, this study used the VAS Pain Scale. also, this article used the Lequesne functional Index, a 10-question questionnaire(17). Western Ontario and McMaster Universities' OAIndex (WOMAC) consist of24 elements.WOMAC has strong metric characteristics and validity the self administered whereas Lequesne OA did not(18,19). the Chinese articles depend on both WOMAC and Kellgren-Lawrence scale that both are important to detect the clinical symptoms and radiological appearance of the disease and I think that these scale are more rational compared to the both VAS scale and Lequesne index Also, the SF-36 is a trustworthy QoLscale, but it lacks sleep domain, and environment domain which is considered beneficial in detecting QoLand it is not very suitable for geriatric population group especially those age 65. Although the aim of the study is to examine QoLin knee OA, but the authors are more concerned with

the signs and symptoms of knee OA more than with QoL(20)

Dieu-Donné Ouédraogo1 et.al.(21) in 2014 performed study that was aimed to evaluated the QoL in patients who have knee OA in a black African population. It is a cross-sectional study concerned all patients received during the study period for symptomatic knee OA in Rheumatology consultation at the University Hospital Yalgado Ouedraogo Ouagadougou, Burkina Faso. The ACR's clinical and radiological criteria were met by all of the participants in the study. The total blood cell count, erythrocyte sedimentation rate (ESR), and C reactive protein (CRP) were all measured in the blood samples of the patients. (visual analog scale, Lequesne index), and scale OAKHQOL QoLwere all collected on a pre-computerized record. The authors were found as follows: According to the OAKHQO Land questionnaire, the knee has an impact on the QoLof rheumatology patients. Knee OA is more frequent in women than in men in black African women. Although the OA Knee and Hip QoL(OAKHQOL QoL) questionnaire is the first HRQoL QoL tool created exclusively for patients with knee and hip OA. but this scale does not deal with the environmental domain, sleep domain, and emotional domain, and using this OAKHQOL QoLscale only I think is not enough to satisfy the aims of the study(22)In addition blood tests for the ESR and C-reactive protein are rational that both measurement is important to detect other types of arthritis as ESR is given an initial idea about rheumatoid arthritis and C-reactive protein is evaluated in septic arthritis and sometimes in acute the acute stage of the gouty arthritis.

In Hong Kong Chinese JEAN WOO et.al.(23) in 2016 performed research to achieve their aim which was to measure the impact of OA on QoL on the Hong Kong Chinese population. It is a cross-sectional, retrospective, non-random, cohort design stratifying disease severity and the presence or absence of joint prostheses with a sample size were 574 that 136 males and 438 females which are recruited from rheumatology, Clinics for general medicine, orthopedics, and geriatric medicine. two equal groups were divided based on the severity of the disease (either American College of Rheumatology functional classes I and II, or III and IV). (WOMAC is employed for the severity of the disease and (SF-36) were utilized to measure QoL.JEAN WOO et.al were concluded that thewomen with OA had poorer scores compared to men for bodily pain, general health, and mental health after adjusting for age and disease severity. Low educational attainment was independently associated with poorer scores when disease severity was taken into account.

Since this study's limitations are the authors can be detected the severity of the diseases by Kellgren-Lawrence scores which is more documented as a better scale for classifying the degree of the disorder as mild to moderate and severe in addition to the American College of Rheumatology functional classes I and II, or III and IV. this American College of Rheumatology is depended on clinical features and is essential in the diagnosis of the symptomatic OA where Kellgren-Lawrence scores depend in radiological finding and it specific to on radiological OA. WOMAC scale give a good idea of the signs and symptoms of the OA. Also, the study includes both patients that have knee or hip joint replacement or have not joints replacement which have been excluded in addition the joint replacement may solve the problem of the OA and reduce pain, stiffness and other symptoms of the OA, and can improve their QoL.

ROAD study which is done by S. Murakiy et.al.(24)at the university of Tokyo, Tokyo,

Japan in2010. to clarify the impact of radiographic and symptomatic knee OA on QoL in Japan. it is cross -section study with3040 people who took part in the Research on OA Against Disability (ROAD) project Study. Short Form-8 (SF-8) and EuroQOL (EQ-5D) for the QoL. WOMAC and Kellgren/Lawrence (KL) also show a link between radiographic and symptomatic knee OA.S. Murakiy et.al found that the patients with symptomatic OA are worse QoL than radiological OA.

Aliasghar A. Kiadalir et.al.(25)in 2016 achieved study to assess and measure the QoLin knee OA patients. The sample size is about 1300 patients. The EQ-5D and KOOS scales are the main instruments are using as the EQ-5D scale is important in detecting QoL and the KOOS is dealing with the severity of pain, stiffness, and other symptoms. The mean age was 69.4 the finding of this study as the EQ-5D record low score in OA patients.

In 2017Haxby Abbott et.al (9)in New Zealand perform a study to assess the health loss and QoL in patients with knee OA in quality-adjusted life years this study was concerned with the OA policy model that was used to assess the QoL in the New Zealand population in addition to the EQ-5D concluded the osteoarthritis decreaseQoL in OA patients and the prevalence of female more than male. In Iraq, to the best of our knowledge, there is no published articles that assessed the association between OA and QoL.

Since the use of WOMAC and KL scale are rational to detect the symptoms of knee OA. whereas the Sweden study uses the KOOS scale for the severity and symptoms of the disease. the KOOS is developed from the Likert 3.0 version of the WOMAC OA index(26).Both scales WOMAC and KOOS are valid and reliable scales, WOMAC can important in elderly patients that can interested in the early treatment of the OA and slow progress of the disease where as KOOS is an extension of the WOMAC scale that is active in young patients, or more active patients with knee OA or even knee injury(27)also, the using the SF-8 as a scale for the QoL is good but this scale has no sleep domain and environment domain which consider very important in the OA as many patients have sleep disturbance due to night pain and it affects daily function and costly to patients. And I think it is not satisfied the patients of OA use of the EQ-5D scale for QoLis limitation that this scale is assesses QoL for one day and OA is chronic forever life and the QoLcan detect at least for 4 weeks(28).

In Brazil 2014,Paula Andréa Cavalcante et.al(29) were performed to evaluate the functional fitness and self-reported QoLdifferences in older people diagnosed with knee OA who participated in health promotion groups. The study is cross-section Clinical and radiological characteristics, in accordance with the American College of Rheumatology, and individual medical history was used to diagnose knee OA in patients aged >60 years. The radiographic parameters for knee OA diagnosis were established using Kellgren and Lawrence's classification. the sample size was 0 patients, 40 of whom were without OA and 50 of whom had primary and secondary OA, with IPAQ for physical activity and WHOQOL QoL for QoL. the conclusion of this study is that the knee OA in older women can lead to a decrease in time spent doing physical activity, functional fitness, and overall QoL, as well as an increase in sitting time.

However, study limitations are in both sample size and in age. also, in this research they were both taken primary and secondary OA, the secondary OA is a complication of the other disease like osteonecrosis,

rheumatoid arthritis, gouty arthritis, septic arthritis, and Posttraumatic OA, which are caused by previous fractures of the distal femur and proximal tibia and Paget disease of the bone. Which all themselves affected QoL. in addition, the use of the WHOQOL QoL is a rational scale for QoL, and it is reliable, valid, it deals with many domains related to the QoL, and is present in many languages.

In 2014,Brazil JúliaReisa ,et.al.(30)were conducted research to accomplish the aim to evaluate the balance in dynamic tasks as well as the QoLregarding physical, social, psychological, environmental and global domains in elderly individuals with and without knee OA. the study is consisting of two groups the first group is 12 elderly females with bilateral knee OA and mean ± SD age of 67.25 ± 4.65 years Kellgren-Lawrence (K/L) grade 1 and 2 knees OA, as well as a rheumatologist who follows the American College of Rheumatology criteria. WOMAC was used to assess pain. The second group, which included 12 elderly of both genders with mean ages, of 65.58 4.23 years who diagnosis according to the Kellgren-Lawrence (K/L) scale or the WOMAC scale. They used the WHOQOL QoL BRIF, a modified version of the WHOQOL QoL -100, to assess QoL. This instrument consists of 26 questions, 24 of which cover four domains of QoL(physical capacity, psychological well-being, social relations, and the environment in which the subject is placed).the study has limitation in sample size is small. This study is assessing the QoL by using the WHOQOL-BRIF this scale is valid and reliable, find in many languages, and its cross-culture applicability. It mostly matches the all component or even domain of that related to the QoL. The limitation of the study that it is not clear in taken of the control patients was taken had neither submitted the Kellgren-Lawrence (K/L) scale nor to the WOMAC scale which may aid in detection of the OA, they only depend on the history of person although that they are elderly the persons and may possibly have asymptotical OA or radiological OA(31).

In 2011, inJapan study was done by Makoto Osaki, Masato Tomita et.al.(32). this study longitudinal epidemiologic study with sample of 333 women aged 50 years baseline, with 8 to 9 years of follow-up to identify the factors that predict the health-related QoL in knee OA using JKOM, this JKOM scale is a patient-based, self-answered evaluation score the Kellgren- Lawrence criteria Kellgren-Lawrence grade 2 or higher in at least one joint was considered definitive OA. All participants were questioned if they suffered from knee discomfort and if they had any co morbidities (heart disease, lung disease, stroke, or diabetes mellitus). The results of this study show how knee OA, knee pain, co morbidities, and increasing chair stand time affect subsequent knee OA-specific, health-related QoLin community-dwelling Japanese women. Because the number of older people with knee OA is expected to rise as life expectancy rises, it's critical to study how knee OA-related factors affect later QoL.

In 2010Hiroyuki Watanabe et.al.(33) in 2010.conducted a study in Japan to assess and compare the QoL and physical performance in early stage OA and healthy women. The JKOM scale was used as an instrument for detect the QoL in the patient. with a small sample size to about 33 elderly women. the result of this study that there is a negatively relationship between QoL by using JKOM scale and theOAand decreased knee extension strength coupled with high levels of physical activity may exacerbate the development of knee OA also using ROM is important for detecting the range of motion in the joints. BMI is also calculated for the patients(33).

However both study has limitation in using the JKOM scale that the scale is valid as the

WOMAC scale in detecting the disease condition, signs and symptoms of daily activity, and others but it has no sleep domain, environmental domain, an emotional and psychological domain which is important in detect QoL. as the social domain and health domain also JKOM has been mainly used in hospital- based patients, but not in community dwelling people even that the OA patients are consulting outpatients and hospital- based patients may have other diseases like (heart disease, lung disease, stroke, or diabetes mellitus). that can affect the QoLthat not related to the OA. and these must be excluded.

In2010, Je Kim1 et.al.(34) in Korea were performed to assess the QoLin patients of OA, and function and lower extremity physical performance. it is cross-section study ,with sample size of 504 in the age of 70 years old Weight-bearing semi-flexed knee radiographs were used to acquire demographic data, (WOMAC) Index was used to assess the severity of the disease and the Short Form 12-item questionnaire self-reported QoL.After adjusting for covariates, the odds ratios (ORs) for belonging to the worst quartile of the WOMAC and the physical performance test in radiographic knee OA compared to non-OA were obtained using logistic regression analysis. General linear models were used to evaluate SF-12 item scores, and averages corrected for age, BMI, and OA severity was compared.

Je Kim1 et.al. was concluded their study after adjusting for age, BMI, and sex, subjects with radiographic knee OA had a significantly higher OR for belonging to the worst WOMAC quartile. After adjusting for age, BMI, and OA severity, women exhibited lower WOMAC and SF-12 scores than males, regardless of the existence of radiographic knee OA. When OA patients were compared to non-OA subjects, they had significantly lower performance scores for both WOMAC and SF12 in OA patients.

In Taiwan 2015, Wen-Hui Fang et.al.(35) were .accomplished a study with a sample size to provide their objective of this research to assess the validity of the WOMAC scale and to evaluate the QoL and physical activity in these OA patients by using the SF-12 scale and also to assess the gender different prevalence of the disease 901 patients in age 65 or older. by using the WOMAC scale to detect the severity and symptoms of the OA and SF-12 for the QoL. the result of these study that OA is more common in the elderly especially females and the QoL decrease in OA patients. This study as mentioned use the WOMAC scale and SF-12 to detect the QoL the WOMAC is used to deal with the sign and symptoms of the OA and is little related to the QoL and can be an aid in diagnosis ,also the SF-12 is a good scale for QoL but their item that deals with all domain of QoLis limited as brief that similar to the SF-36 scale that not deal with environment domain and sleep domain which consider important in detected QoLin patients ofOA .and also it is not very suitable for geriatric population group especially those age65 although most OA patients are elderly patients.

DISCUSSION

OA is one of the diseases that have prevalence in many countries. It is not one of the dangerous diseases but it is a chronic disease that effect to person for all life, many patients with the OA are severing from pain and stiffness which consider the most problem of the disease that can affect to physical activity of the person, daily activity and also may cause anxiety and depression(36).

The BMI which is considered a very important scale that many the obese persons are suffering from OA, and they may be a direct relationship between the obesity and

the OA,in addition to the obesity consider one of an important risk factors for develop of the OA that some studies show that decrease in BMI in 2 unit or more in 10 years (~5 kg), the risk of knee OA decrease in 50%of developing of OA(37,38).

The education level is an important factor in OA patients that some studies show that patients with the higher education level may decrease the severity of the disease and improve their quality of the life. by improving the functional capacity of the patients in the SF -36 domain. The function limitation and pain domain in SF-36 also depend on the education level(10).

More ever that education has a certain role in the treatment of the OA which is educate the OA patients by change lifestyles and weight loss is very important. By study taking place in French show that educating patients of the OA to exercise and certain physical activity which consider as a first non-pharmacological line of treatment that leads to improve function capacity, decrease pain and improving QoL in addition it may be less cost to patients(39).

All studies illustrate that the OA is more common in female than male the reason is not fully understood but some research suggests that due to differences in most of the spatio-temporal gait parameters of patients with knee OA.Some ofthese differences in that males and females may show different gait strategies in response to OA disease(40).

The diagnosis of the OA depends on both symptomatic and radiological, the radiological finding some time not relation to the pain, where some radiological OA has no pain while others have the severity of pains which is not a correction to the radiological finding of the OA(41).

The many of researches in this study deal with both WOMAC and SF36, by, comparing between both scale WOMAC and SF36 in the treatment of the OA, both WOMAC and SF-36 responded positively to the treatment and he degree of the response to the treatment in WOMAC is faster thanSF36 and although that SF36 is shown some improvement but it is less significant comparing to WOMAC. This is the SF-36is deal with other components like social ,emotiona , and mental health whereas WOMAC on the other hand is a core functional assessment tool that eliminates some of the social and mental assessment outcomes in the treatment, thereby, leading to high responsiveness towards physical/functional assessment in chronic knee OA patients(20).

As comparing between WHOQOL-BREF and SF-36 as both QoLscale measuring QoLis complex. The SF-36and WHOQOL QoL-BREF are often used interchangeably to measure generic QoL. However, these instruments appear to measure differentQoL constructs. the SF-36 seems to measureHRQOL QoL, whereas the WHOQOL-BREF measuresglobal QoL. Thus, the WHOQOL-BREF may be more appropriate. However, because global QoL may not be directly affected by health person or healthcare interventions , those interested in measuring the impact of interventions on health-related QoL may want to select the SF-36(31).

The WHOQOL scale has four domains, the domain-1 is deal with pain, activity, mobility, sleep, energy, medication, and work. Domain -2 is concerted with a positive and negative feelings, think and spirituality, the domain -3 has associated with social activity, social relationships, and sex. And lastly, domain-4 is deal with Safety, Home, Finance, Services, Inform., Leisure, Environmental, and Transport. Therefore the WHOQOL-BREF is one of the certain scales that almost deal with all components related to the QoL and in addition, it present in many languages about

30 languages , valid and self-administered if respondents have sufficient reading ability (42).

Conclusion: OA is affecting the QoL. it is more common in the elderly and the female. They are many scales for detecting the QoL, they are either related to the global QoLas in WHOQOL and WHOQOL-BREF or to the health QoL. the global QoLis more significant and valid as a scale in dealing with QoL in chronic disease. The WHOQOL-BREF scale is valid and more influential scale that deals with approximately with all component related to the QoL. there are many risks factor associated with OA but one of important is the body weight which is directly related to the QoL. The level of education of the patients are more interactive with treatment and obtaining a good result and improving their health and decreasing the severity of the disease.

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