ASSESSMENT OF HEALTH RELATED QUALITY OF LIFE AND ASSOCIATED SOCIO DEMOGRAPHIC FACTORS IN PATIENTS WITH KNEE OSTEOARTHRITIS IN BAHAWALPUR CITY.

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ABSTRACT

BACKGROUND: Osteoarthritis is one of the leading cause of musculoskeletal torment and incapacity worldwide with knee osteoarthritis influencing up to 33% individuals matured more than 30 years. In general most people with knee Osteoarthritis have persistent torment which is a multidimensional encounter that impacts their Quality of life QoL and it is the most prevalent reason for wellbeing relating personal dissatisfaction in term of quality of life years QALYS lost both at individual and populace level. **OBJECTIVE :** The objective of study was to assess the health related Quality of life in patients with knee osteoarthritis in Bahawalpur City and to find out the factors associated with Quality of Life in patients with knee joint osteoarthritis. **MATERIALS AND METHODS :** It was a Cross-Sectional study conducted for six months from 1st August 2022 to 30th January, 2023 in Orthopedics and Physiotherapy clinics in public hospitals in Bahawalpur City. A sample of 200 patients having knee Osteoarthritis were collected through non probability purposive sampling. Data for Quality of life was collected through QOL BREF and for socio demographic variables, through a predesigned and pre tested Questionnaire. BMI was calculated by measuring height and weight. The data was entered and analyzed through SPSS version 24. Simple frequencies and percentages were calculated. Chi square test was used as test of significance for the qualitative variables. **RESULTS:** This study elucidated that Most of patients with knee osteoarthritis were in age group 41-60 years and mostly females.40% of them had poor Quality of life and only 36% had good Quality of life. The socio demographic factors have significant association with Quality of life in patients with knee osteoarthritis. **CONCLUSION:** Most of the patients with knee osteoarthritis have poor Quality of Life and Socio demographic factors like older age, female gender, high BMI, low education, working financial class, age of onset and duration of disease have a statistically significant association with Quality of life.

KEY WORDS: Quality of Life QOL, Knee Osteoarthritis, Socio demographic factors, Association, BMI.

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INTRODUCTION

Musculoskeletal chronic diseases are most common health hazards among world populace. Among these diseases, knee osteoarthritis is believed to be a significant public health dilemma associated with increasing age resulting from articular cartilage progressive loss leading to functional impairment, torment, reduced QoL quality of life and disability among patients[1] .Almost 64 percent of populace aged above sixty years face this condition and it has capability to change itself in seventh most widespread disease among global populace[2].

Osteoarthritis is one of the steadily disease caused by joint tissue alteration and articular cartilage degeneration leading to disability, pain and stiffness. The disease adds to 25 percent of entire disease burden.[3] It has been anticipated that during 2025, knee osteoarthritis prevalence will enhance by 40 percent due to aging of global populace.[4] These statistics even become more disturbing since present population aged above sixty years is projected to be sixty four million by the year 2050[5].As described by WHO World Health Organization, QoL is the perception of a person of his or her place in the life in terms of value system and culture wherein he/she lives and with regard to his/her goals, concerns, standards and expectations. [6]

Quality of life is a multifaceted construct including characteristics of social, physical and physiological wellbeing while it must show patients personal assessment regarding wellbeing instead of

healthcare provider's view. Quality of life is mostly described by getting "Psychometric shortcut" that is by operationalizing construct like a score on questionnaire or a set of the scales. 29 Various scores, for instance, SF-36, OAKHQOL, WHO QOL-BREF and WOMAC are utilized to evaluate the QoL among patients who have persistent conditions. QOL-BREF Questionnaire of World Health Organization is commonly utilized to evaluate the QoL among patient with persistent knee osteoarthritis.[7,8]

Osteoarthritis is one of the steadily diseases with articular cartilage alteration and degeneration as well as modifications in the joint tissues leading to disability, pain and stiffness. It is 7th most prevalent ailment in Turkey and comprises 2.9 percent of burden of the disease and knee joints are affected among 76 percent of the cases having significant impact on an individual disability. [9,10]

Currently diagnosis, prognosis and treatment of osteoarthritis is limited to the clinical assessments but due to advancing disease, functional limitations of patients tend to get worse and create harm in the job, social relations and leisure leading to a significant reduction in patients QoL. Therefore this study aimed at assessing the Quality of life in patients with knee Osteoarthritis and its association with various socio demographic variables.

Objective
To assess the Quality of Life in patients with knee osteoarthritis in Bahawalpur City by using WHO QOL BREF.
To find out the factors associated with Quality of Life of patients with knee joint osteoarthritis.

Operational Definitions
QOL
Quality of life is defined as individuals, perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goal, expectations, standards and concerns.

Osteoarthritis
Osteoarthritis is a drawn out persistent illness described by the crumbling of ligament in joint which brings about bones scouring together and making firmness, torment and impaired movement.
BMI Body Mass Index weight in kg/height in m^2
WHO categories Normal 18.5-24.9, Overweight 25-29.9, Obese >30
FINANCIAL CLASS:
Based on monthly family income
Lower class < 40000, Working Class upto 100000, Priveleged class >100000

Material and Methods
Study Design
Cross-sectional study
Study Setting
Orthopedics and Physiotherapy clinics of public hospitals in Bahawalpur City.
Sample Size
The study was conducted on 200 patients with knee Osteoarthritis.
Ethical approval and consent to participate:
Ethical permission was taken from Institutional Review Board IRB of Quaid-e-Azam Medical College, BVH and Civil Hospital Bahawalpur

before collection of data. Informed consent was taken from all the participants.
Sampling Technique
Non-Probability purposive sampling.
Inclusion Criteria
Willing males and Females having knee OA.
Exclusion criteria:
Patients with other musculoskeletal disorders
Unwilling male and female patients.
Data Collection

A structured questionnaire comprising of different variables to identify the factors affecting the quality of life and WHO QOL BREF Questionnaire for the assessment of Quality of Life was used. The researchers themselves sat in the Orthopedic and physiotherapy clinics of public hospitals in Bahawalpur City and conducted interviews of patients with knee Osteoarthritis qualifying inclusion criteria using the study instruments.

The study instrument has 2 parts:

Part 1 Socio demographic Profile required the patient to provide information in terms of age, gender, education, profession, residence and all other identified factors.

Part 2 WHO QOL-BREF QUESTIONNAIRE 1997. This tool was developed by WHO to assess quality of life. It consists of 26 items of satisfaction that were divided into five domains;

Domain 1: Quality of Life 2 items;
Domain 2: Physical health 7 items;
Domain 3: Psychological health 6 items;
Domain 4: Social Relationships 3 items;
Domain 5: Environmental health 8 items.
Scoring Systems: Each individual item of WHO QOL-BREF QUESTIONNAIRE was scored from 1 to 5 on a response scale, which was stipulated as a 5 point ordinal scale. The scales were then transformed linearly to a 0-100 scale. These 2 questions include 5 point response categories in QOL "very poor" "poor" "neither poor nor good" "good" "very good" and for satisfaction of "very dissatisfied" "dissatisfied", "neither satisfied nor dissatisfied", "satisfied" and "very satisfied". Analysis was performed after collapsing the bottom 2 categories i.e. for QoL, very poor and poor, for satisfaction with health very dissatisfied and dissatisfied and comparing them to the top three. This approach produced the following derived variables "poor QOL" vs "good QOL", "dissatisfied with own health" or "satisfied with own health" unlike the 4, only 2 binary outcomes.

Data Collection Instrument
Questionnaire WHO QOL-BREF was used to collect data regarding patients rating of their quality of life and satisfaction with their health status.

Dependent Variables
Dependent variables were Quality of Life QoL assessed by WHO QOL BREF QUESTIONNAIRE.
Independent Variables
Demographic and socio-economic variables such as age, gender, marital status, education, BMI, Years and onset of disease, place of residence, socioeconomic status.

Data Analysis

Data were entered and analyzed by using statistical package for social services SPSS version 24. Frequencies and percentages were calculated for all the variables in all the 5 domains of WHO QOL - BREF Questionnaire Domain 1: Quality of life, Domain 2: Physical health, Domain 3: Psychological health, Domain 4: Social relationships, and Domain 5: Environmental health. Cross tabulation of Quality of life with age, gender and education were done. Chi square test was used as test of significance as variables were qualitative in nature. P value of less than 0.05 was considered significant.

RESULTS:

This study conducted on 200 individuals with knee Osteoarthritis in orthopedic and physiotherapy departments of public hospitals of Bahawalpur showed that most 115 57.5% of the patients were in ages 41-60 years and out of all 200 ,most were males 104 52 %.Regarding marital status, most of these patients were married 191 95.5%.It was also concluded in this study that almost half 101 50.5% of study participants had education upto matric and most 83 41.5% of the patients with knee Osteoarthritis belonged to working class. As far as occupation is concerned out of 200 patients, 8442% were private employees. This study also proved that out of 200 knee osteoarthritis patients, 7236% were overweight and 66 33 % were obese. Table 1
This study concluded that out of 200 study participants, 128 64% gave history of onset of disease between 41-60 years of age and most 157 78.5 % gave history of duration of disease to be within 2-5 years. Table 2

Regarding Quality of life, it was proved that out of 200 knee osteoarthritis patients,80 40% rated their quality of life as poor,84 42% as neither poor nor good and only 36 18% rated their quality of life as good. Regarding satisfaction, most 10653% were dissatisfied, 3015% neither dissatisfied nor satisfied and 64 32% were satisfied with their health. Table 3

This study proved a highly statistically significant association of age group 41-60 years with quality of life in patients with knee Osteoarthritis ,p value 0.00001 Table 4

This study also concluded a statistically significant association of female gender with quality of life in patients having osteoarthritis of knee joint. P value= 0.000443 Table 5

It was deduced in this review that there is relation of low educational status with poor quality of life and this was statistically inferable. P value= 0.00001.Table 6

Regarding financial status, there is high statistically apparent relation between working class and bad quality of life p value= 0.000376 shown in table 7.

It was proved in this study that there is a highly statistically significant association between high BMI and diminished QoL in patients with knee osteoarthritis p value= 0.00001 depicted in table 8.

This study concluded a statistically significant association between onset of disease between 41-60 years and poor quality of life p value=0.0324 and duration of disease between 2-5 year and bad quality of life p value= 0.000025 depicted in table 9 and 10 respectively.

Table -1: Sociodemographic DISTRIBUTION OF PEOPLE WITH KEE OSTEOARTHRITIS

AGE	Frequency	%age
<40	28	14%
41-60	115	57.5%
>60	57	28.5%
	200	100%
GENDER	**Frequency**	**%age**
Male	104	52%
Female	96	48%
	200	100%
MARTIAL STATUS	**Frequency**	**%age**
Married	191	95.5%
Unmarried	09	4.5%
	200	100%
Educational Status	**Frequency**	**%age**
Illiterate	41	20.5%
Up to matric	101	50.5%
Above Matric	58	29%
	200	100%
Financial status	**Frequency**	**%age**
Lower Class	78	39%
Working class	83	41.5%
Privileged class	39	19.5%
	200	100%
Occupation	**Frequency**	**%age**

Govt Employee	8	4%
Private employee	84	425
Business	16	8%
House Maker	78	39%
Retired	14	7%
	200	100%
BMI	**Frequency**	**%age**
Normal	62	31%
OVER Weight	72	36%
Other	66	33%
	200	100%

Table -2: Frequency Distribution of People with knee osteoarthritis according to history of Disease

Age at onset of Disease	Frequency	%age
<40	41	20.5%
41-60	128	64%
>60	31	15.5%
	200	100%
Duration of Disease	**Frequency**	**%age**
< 2 years	18	9%
2-5	157	78.5%
>5	25	12.5%
	200	100%

Table -3: Frequency Distribution of People with knee osteoarthritis according to quality of life.

How would rate your quality of life.	Frequency	%age
Very Poor	9	4.5%
Poor	71	35.5%
Neither poor nor good	84	42%
Good	36	18%
Very good	0	0
	200	100
How satisfied are you with your health	**Frequency**	**%age**
Very dissatisfied	12	6%
Dissatisfied	94	47%
Neither dissatisfied nor satisfied	30	15%
Satisfied	64	32%
Very satisfied	0	0
	200	100%

Table -4: Association of age of patients having knee osteoarthritis with quality of life.
Quality of life

		Poor	Neither poor nor good	Good	
Age	<40	7	6	15	28
	41-60	32	67	16	115
	>60	41	11	5	57
		80	84	36	200

X^2 =60.8661,P value = 0.00001, Significant

Table -5: Association of gender of patients having knee osteoarthritis with quality of life.
Quality of life

Gender		Poor	Neither poor nor good	Good	
	Male	28	53	23	104
	Female	52	31	13	96
		80	84	36	200

X^2 =15.4444, P value = 0.000443, Significant

Table-6: Association of Education of the patients having knee osteoarthritis with quality of life.

Quality of life

Education		Poor	Neither poor nor good	Good	
	Illiterate	29	07	05	41
	Up to Matric	30	60	11	101
	Above Matric	21	17	20	58
		80	84	36	200

X^2 =40.4986 P value = 0.OOOO1 Significant

Table-7: Association of Financial Status of the patients having knee osteoarthritis with quality of life.

Quality of life

Financial Class		Poor	Neither poor nor good	Good	
	Lower	39	31	08	78
	Working	30	41	12	83
	Privileged	11	12	16	39
		80	84	36	200

X^2 =20.6263, P value = 0.OOO376, Significant

Table-8: Association of BMI of the patients having knee osteoarthritis with quality of life.

Quality of life

BMI		Poor	Neither poor nor good	Good	
	Normal	11	30	21	62
	Over Weight	31	36	05	72
	Obese	38	18	10	66
		80	84	36	200

X^2 =31.9144, P value = 0.OOO01, Significant

Table-9: Association of AGE at onset of Disease of the patients having knee osteoarthritis with quality of life.

Quality of life

Age onset of Disease		Poor	Neither poor nor good	Good	
	< 40	21	13	07	41
	41-60	41	63	24	128
	> 60	18	08	05	31
		80	84	36	200

X^2 =10.529 P value = 0.O324, Significant

Table-10: Association of Duration of Disease of the patients having knee osteoarthritis with quality of life.

Quality of life

Duration Of Disease		Poor	Neither poor nor good	Good	
	< 02 Yr	05	03	10	18
	2-5 yr	60	76	21	157
	> 05 yr	15	05	05	25
		80	84	36	200

X^2 =26.4881 P value = 0.000025 Significant

DISCUSSION:

This study conducted on 200 individuals with knee osteoarthritis to assess health related Quality of life and its associated socio demographic factors revealed that 57.5 % of the participants were in age group 41-60 years.These findings being similar to a study in Australia where mean age of knee osteoarthritis patients was 65 years[11] and to another review showing that 25% of individuals above 55 years of age had proven knee osteoarthritis[16] .Most

52% of knee osteoarthritis patients were males which was contrasting to study of Australia where most 68% were women[11].Also it was elucidated in this study that 36% of study participants were overweight and 33% obese ,very similar to study where 38% were overweight and 43% obese[11].

It was concluded in this study that 40% of study participants rated their QoL as poor which was

nearly similar to a study conducted on 392 knee osteoarthritis patients in Quetta , Pakistan where bad QoL was observed in these patients and being associated with various socio demographic factors like increasing age, female gender and low monthly income[15].

This study proved a highly statistically significant association of age group 41-60 with decreased quality of life in patients with knee osteoarthritis p=0.00001 which was agreeable to results of another study where there was decreased quality of life with increasing age[12] and also same as proved in study of Ballabgarh, Haryana where 64% elderly had knee osteoarthritis and showing a diminished QoL with enhancing age p value <0.001[17] and also these findings consistent to an Asian study where age was positively associated with social domain of QoLp=0.005 , but also contrasting to a study of Mexico where there was an insignificant association of age with quality of life[13].

This cross sectional study became a source of proving a statistically significant relation of female gender with decreased QoL p=0.000443 which was alike another study conducted in Australia showing worst QoL in women p <0.001[11] and also similar to results of systematic review from studies of Europe where women showed poor quality of life[12] .These findings agreed to another study of Korea where a statistically significant association was observed between bad quality of life and female gender p<0.0001[14] especially affecting mental health domain. This result was also strengthened in another study where it was proved that a statistically significant relation exists between female gender and reduced QoL b=-1.11 95% C.I= 2.32-0.08, p==0.069[16].

It was deduced in this review that there is a statistically significant association of low education and low QoL p=0.00001 which is consistent to results of study in Brasil where a study on 93 osteoarthritis patients using SF-36 questionnaire showed a strong association between low education and low quality of life[18] and in another systematic review showing a strong relation between low educational levels and a bad QoL[12].

Regarding financial status, it was concluded in this cross sectional study that a highly statistically significant relation exists between working financial class and low QoL p=0.000376 which was very similar to study results of Mexico City which also proved a significant association between low socioeconomic status and low QoL[13]and also relatable to results of study in Quetta ,Pakistan where a strong relationship existed between low QoL and low financial status[15] and also this finding was indistinguishable from results of a study from Europe where SF-36 Questionnaire used on osteoarthritis patients showed a significant correlation between low monthly income and diminished quality of life[20] but these findings were very contrasting to study results in where low family income was not associated with QoLOR=3.96, C.I 95% 1.01-15.51[19] and also with an Asian study conducted on 131 patients where monthly income was not related to QoL[21].

This cross sectional study elucidated a significant association between high BMI and low QoL which was similar to study of Australia where BMI had statistically significant correlation R^2=0.44 p<0.001 with QoL in knee osteoarthritis cases[11] and also comparable to findings of another study where overweight and obese knee osteoarthritis cases had poor QoL b= -1.64 95% C.I=2.35-0.93 ,p< 0.001 [16] and to an Asian study showing that BMI was positively associated with physical domain of quality of life p=0.040[21] and a study of showing enhanced QoL in people doing physical activity 6.3% and very frequent physical activity 14.9% and in those who reduced BMI[22] probably because of comorbidities associated to overweightness and obesity that further affect their health.

It was concluded in this study conducted on 200 knee osteoarthritis patients that there is a statistically significant association between duration of disease and Quality of life and theults were indistinguishable from a study where duration of illness was associated to decreased QoL b= -0.80 ,95% C.I =1.51- 1.91 ;p = 0.027 in these subjects[16] and also alike results of Asian study where disease duration was positively associated with physical domain of QoL p=0.043[21] hence socio demographic factors have a significant relation to Quality of life in knee osteoarthritis patients.

CONCLUSION:

Most of the patients with knee osteoarthritis have Poor Quality of life and only 32% were satisfied with their health. The socio demographic factors like older age, female gender, low education, working financial class, high BMI, age of onset and duration of disease have a statistically significant association with Quality of Life in these patients.

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