



DEPRESSION AND PAIN IN ELDERLY WITH KNEE OSTEOARTHRITIS PAIN.

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ABSTRACT

Aim Of The Study: The study aims to review depression and pain in the elderly with knee Osteoarthritis.

Material And Methods: Subjects fulfilling selection criteria were recruited from the Department of Orthopaedics Surgery, KGMU, Lucknow, India.

1. Mobile numbers of subjects from the records available were obtained from JANUARY 2018 to JANUARY 2020
2. Topics were contacted over the telephone and recruited according to the nomination standards for the study. The call was recorded after taking consent.
3. Subjects were contacted during the daytime 10 am -2 pm.
4. Subjects were approached three times.
5. The survey was completed in a maximum of 2 sessions, 15 minutes each (if the subject was not comfortable answering in a single session).
6. Proper introduction of the Doctor calling them and the purpose of the telephone was given to the subjects.
7. Telephone subjects were interviewed based on the sociodemographic questionnaire.
8. Following the basic interview, subjects were evaluated using scales that include PHQ-9, SF-12 and WOMAC. (Antonio Escobar, 2006)
9. HRQoL was measured by SF-12 which includes general health, limitation of activities, physical health, emotional health and social activities. (Moheddine Younsi, 2015)
10. PHQ-9 to assess the diagnosis and severity of depression was applied.
11. WOMAC scale was applied which gives the status of pain, stiffness and physical disabilities.
12. Each assessment took 20-30 minutes.
13. If subjects and attenders ask for advice regarding the treatment were addressed properly following guidance from consultants.
14. For the subjects with depression, the advice was given to consult the geriatric mental health helpline number of KGMU. The specimen length assumed for this study is 90 (30 in each group in KL grade 2/3/4).

Results: This study shows that depression was extensively observed among sufferers with knee OA. Patients with knee OA analyzed with these comorbidities encountered more pain and discomfort, had systematic hospital calls, took more medication, and documented less optimal results. Being a cross-sectional, telephonic survey, this study shows results accordingly. (Anirudh Sharma, et al., 2020).

Conclusion: Depression seems to have adverse impacts on the sufferers with knee OA. Physicians or caregivers are highly instructed to contemplate these comorbidities in patients with knee OA. KOA studies usually comprise pain and function scores but haven't routinely incorporated psychosocial variables estimating QoL (Prtha Kudesia, et al., 2020). This study concludes that there is a considerable difference in pain and general health-related quality of life (HRQoL). Pain and HRQoL worsen with higher grading of KOA. Eventually, a holistic customised surveillance method is essential to enhance patient results. (Roman Sosnowski, et al., 2017).

KEYWORDS : Knee Osteoarthritis, anxiety, depression, HRQoL.

INTRODUCTION

Osteoarthritis is an extensively occurring musculoskeletal disorder seen in older people all across the globe. It is depicted by retrogression of the osteophyte formation, asymmetric joint space narrowing, and articular cartilage. These alterations lead to discomfort and pain and build a considerable self, financial, and societal burden. The spread of OA, especially knee OA, rises with age. Prevailing supervision primarily promotes ameliorating signs and symptoms and enhancing function, but for myriad, these interventions do not furnish sufficient symptom relief. (Michelle J Lespasio, et al., 2017).

This study is a telephonic study that encompasses numerous aspects being examined to elucidate discrepancies in patient-reported symptoms and results, of which depression has commenced to develop as dominant candidates. (Mario Fernando Prieto Peres, et al., 2017) Depression is defined as the existence of an awful, empty, irritable or emotional mood. Both anxiety and depression are accompanied by cognitive and somatic changes that can considerably influence a person's capability to function. Now, this has adverse impacts on cardiovascular, gastrointestinal, and chronic respiratory disorders. Since lasting pain in itself can result in or worsen depression, a terrible process initiates, which can quite affect the procedure and

management of these chronic disorders. (Harpal S Buttar, at al., 2005)

Numerous studies have assessed the concordance between knee OA and depression. Although significant work has been performed to explain the part of depression in patients with knee OA, this study strives to deliver an extensive awareness contemplating the consequence these comorbidities have on knee OA symptoms, patient results, and challenges they present towards diseases and their management.

MATERIALS & METHODS

Study Design

A type of cross-sectional telephonic survey was undertaken. Study duration: 6 months. (Butler B. S, Et al., 2011)

Setting

The survey was conducted in the Department of Orthopaedics, KGMU, Lucknow, India from January 2018 to January 2020 that analysed the effects of depression and anxiety in the elderly with knee Osteoarthritis. (Dr. Vineet Sharma, 2008)

Participants

Subjects giving consent for participating in a telephonic survey, with

50 years of age and Kellgren and Lawrence grading of 2 or more for KOA, who had visited IPD and OPD of the department of orthopaedics with osteoarthritis of the knee based on ACR guidelines from JAN 2018 to JAN 2020. Exclusion criteria comprise subjects who could not be contacted over the phone, subjects with severe hearing impairment, and subjects who had expired. The sample size taken for this study is 90 (30 in each group in KL grade 2/3/4). (Dr. Susan Goodman, 2008)

Variables

A semi-structured proforma was used to estimate the variables like age, gender and locality; clinical variables like diagnosis, and an episode of illness. The diagnosis was made by senior consultants/ doctors of the Department of Orthopaedics.

Data Sources

Information for this study was gathered using the Chi-Square test and Fischer exact test. Non-parametric data and longitudinal data were extracted using the Chi-Square test and ANOVA or t-test respectively. (Ryan Winters, 2010)

Statistical Methods

Statistical analysis was carried out using the Statistical Product and Service Solution (SPSS) software v.15. Statistical analysis of socio-demographic variables was undertaken using Chi-Square Test or Fischer Exact test on grounds of group numbers of variables. Non-parametric data groups were estimated using the Chi-Square test. Longitudinal data were analysed using ANOVA or t-test depending upon groups. Pearson's correlation coefficient was used to analyse the correlation between variables.

	Age	Sex	Religion	Education	Occupation	Marital status	Residence	Duration of illness	Medical Co. monthly	Treatment
Mean	59.37	1.88	1.11	3.97	3.87	1.34	1.19	2.69	1.30	1.29
SD	7.18	.47	.28	1.05	1.05	.29	.29	1.28	1.87	.66
Min	50	1	1	1	1	1	1	1	1	1
Max	82	2	2	4	4	2	5	5	5	5

Fig1:

RESULTS

The age range of subjects ranges from 50 to 82. The minimum age of the study sample is 50 and the maximum is 82. The mean age is 59.37 and SD 7.18 (Table-1). The percentage of males and females were 32.2 and 67.8 respectively, out of which 90% were Hindus, 8.9% Muslims, 1.1% Christians, SD 0.37 (Table 2). Illiterate subjects accounted for 2.2%, 6.7% educated up to 5th standard, 23.3% up to 10th standard, 27.8% up to 12th standard, 40% graduate/postgraduate, SD 1.05. (Table- 3). Unemployed subjects were 13.3%, unskilled/semi-skilled 16.7%, skilled 4.4%, professional 8.9%, housewife 48.9%, retired 7.8, SD 0.65. (Table 4). Urban subjects included 81.1%, rural 8.9% (Table 5). Duration of illness among patients less than 1 year is 13.3%, 1-2 years 35.6%, 2-3 years 38.9%, 3-4 years 1.1%, 4-5 years 3.3%, more than 5 years 7.8%. (Table 6). Patients with medical treatment 71.1% and with both medical and non-medical 28.9%.

Table-1: Frequency Distribution Of Age

Age	N	Min	Max	Mean	SD
	90	50	82	59.37	7.18

Table-2: Frequency Distribution Of Religion

Religion	Frequency	Percent
Hindu	81	90
Muslim	8	8.9
Christian	1	1.1

Table-3: Bar Chart Showing Frequency Distribution Of Religion

Education	Frequency	Percent
Illiterate	2	2.2
Upto 5 th	6	6.7
Upto 10 th	21	23.3
Upto 12 th	25	27.8
Graduate or postgraduate	36	40

Table-4: Frequency Distribution Of Occupation

OCCUPATION	Frequency	Percent
Unemployed	12	13.3
unskilled and semiskilled	15	16.7
Skilled	4	4.4
Professional	8	8.9
house wife	44	48.9
Retired	7	7.8

Table-5: Frequency Distribution Of Residence.

Residence	Frequency	Percent
Urban	73	81.1
Rural	17	8.9

Table-6: Frequency Distribution Of Duration Of Illness.

DURATION OF ILLNESS	Frequency	Percent
less than 1 year	12	13.3
1-2 years	32	35.6
2-3 years	35	38.9
3-4 years	1	1.1
4-5 years	3	3.3
more than 5 years	7	7.8

Table-7: Frequency Distribution Of Treatment

TREATMENT	Frequency	Percent
MEDICAL	64	71.1
MEDICAL AND NON MEDICAL	26	28.9

Table-8: Frequency Distribution Of WOMAC

WOMAC	Frequency	Percent
Mild	69	66.7
Moderate	20	22.2
Severe	1	1.1

Table-9: Bar Chart Showing Frequency Distribution In WOMAC

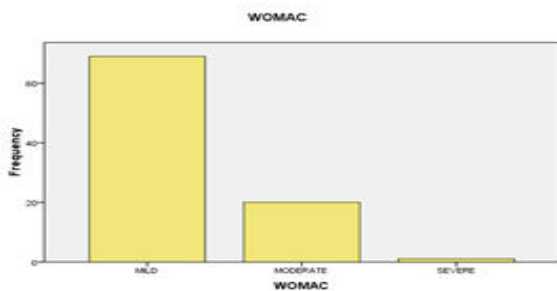


Table-10: Frequency Distribution Of PHQ 9

PHQ 9	Frequency	Percent
None	53	58.9
Mild	27	30
Moderate	10	11.1

Table-11: Bar Chart Showing Frequency Of PHQ 9

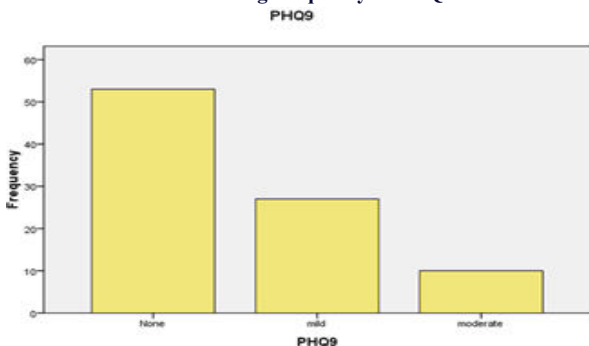


Table-12: Descriptive Statistics Of SF12 And Pain.

	GENERAL HRQoL	PHYSICAL HRQoL	EMOTIONAL HRQoL	SOCIAL HRQoL	SF12	PAIN
Mean	6.50	2.77	17.57	4.49	31.53	5.31
Std. Deviation	1.326	.925	2.945	.838	2.632	2.811

Table-13: Histogram Showing Frequency Distribution Of SF12

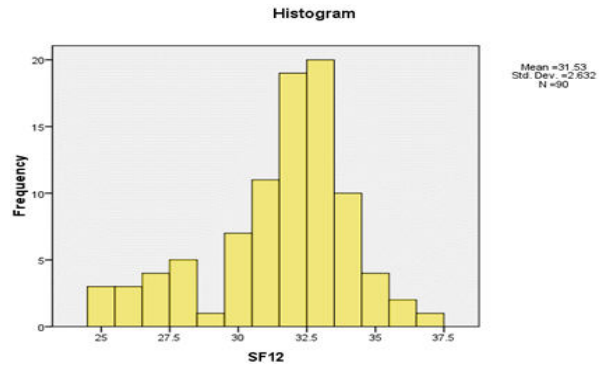
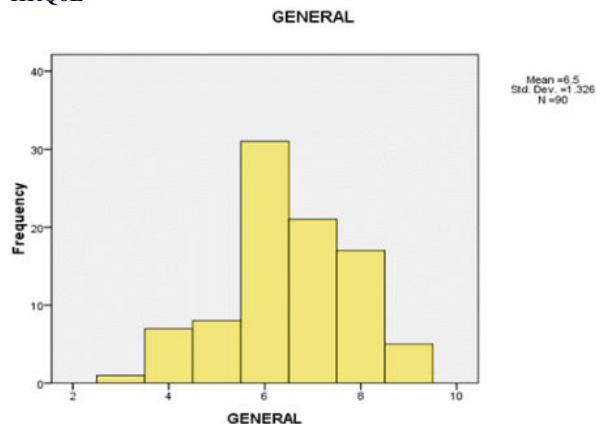


Table-14: Histogram Showing Frequency Distribution Of General HRQoL



DISCUSSION

This study demonstrates that depression and knee pain are the factors that immensely and negatively impact patients. Depression (in the elderly) emerges as a consequence of general medical illnesses, especially those such as KOA, which causes chronic pain leading to physical disability and loss of autonomy. The impact of depression is crucial as it shows that individuals are more likely to report greater intensity of pain and discomfort. Depression disorder when correlated to physical disability can result in the emergence of anxiety symptoms. Our study found that women have higher rates of depression and anxiety. The results of this study indicate a significant worsening in the domains of SF-12 instruments. Hence, in domains related to physical health, OA resulted in higher levels of body pain whereas in domains regarding physical functioning, a decrease in the ability of an individual to live independently in their community was observed. A more recent study also showed that patients with depression and chronic pain exhibit a high degree of physical disability - a finding evidenced in this study as well.

In addition to that, age also plays a significant role - patients with more age seemed to experience worsened symptoms and depression. Also, patients with higher Lawrence grading and radiographic Kellgren (grade 3) experienced poor functioning of the knee and adverse effects of depression and/or anxiety as compared to patients with lower radiographic OA grading (grade 2). Anxiety and depression are observed to be extremely common in geriatric OA patients but no survey has proven these psychological factors as an independent. In our study, anxiety wasn't that common but the symptoms of depression were observed (depression being a more severe disorder than just a mere symptom).

According to the results of a study, radiological severity was correlated with a functional disability but not with mobility and stiffness. The discordance between radiographic OA and the occurrence of clinical symptoms is a well-documented study performed in Japan - indicated that the quality of life scores was not significantly associated with the KL grade of the knee after adjustment for age, grip strength, and BMI. Using the WOMAC scale, a study showed a positive correlation between disability and pain severity, which is per results from other studies. In our study, the high level of functional reduction among patients is due to self-medicating and reporting late to a physician. Supervised physical and mental exercise improves pain, physical dysfunction, and emotional disturbances. We also found, there is discordance in WOMAC scores and KL grading and thus, treatment should be planned based on physical status and symptoms, and not on grounds of KL grades. The correlation between WOMAC and depression in our study was satisfactory, although the stiffness component on the WOMAC scale had the lowest correlations with depression, which is per other studies.

Limitations

Some of the limitations of our study comprise - not being able to interview the subjects in-depth because the study was performed over the phone. Also, the time restrictions, ongoing COVID-19 pandemic, and the panic around the situation. Another limitation of our study is - it was designed as a cross-sectional instead of a follow-up study. Also, the small sampling size may restrict the generalisation of the observed results can be considered another limitation. Additionally, data about possible confounders such as medication use, substances used were not collected, and info about comorbidities was not complete due to limitations over the phone.

CONCLUSION

KOA studies usually comprise pain and function scores but haven't routinely incorporated psychosocial variables estimating QoL, which also influences how patients feel, function, and survive. This study concluded that there is a considerable difference in pain and general health-related quality of life (HRQoL). Pain and HRQoL worsen with higher grading of KOA. Also, there is a substantial difference between males/females and depressed/non-depressed groups. Pain is more in females and depressed groups. Depression was the most significant psychological indication that negatively impacted the patient-reported knee functional results of geriatric knee OA patients. More interest should be reimbursed to the depressive status of geriatric people in cases of inadequate conclusions for knee OA that are documented by elderly patients. Thus, pain is positively correlated with depression.

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Conflicts Of Interest- No conflicts of interest were observed.

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