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RESEARCH ARTICLE

HEALTH-RELATED QUALITY OF LIFE (HRQOL) IN OLDER ADULT SUBJECTS WITH KNEE OSTEOARTHRITIS PAIN

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Abstract

Aim of the study: The study aims to find the health-related quality of life (HRQoL) in older adult subjects with knee osteoarthritis pain.

Material and methods: A cross-sectional, telephonic study was done on knee osteoarthritis subjects above 50 years of age. Socio-demographic scales and details, (ShalliBavoria, et al., 2020) i.e., WOMAC (Western Ontario and McMaster Universities Osteoarthritis Index), SF-12 (Short Form survey), PHQ-9 (Patient Health Questionnaire) et al were applied (Soo-Hyun Park and Byeong-Hun Kang., 2020). Information was retrospectively compiled and a semi-structured proforma was selected to gather the clinical variables.

Results: Results were identified by domains of Health related quality of life. Results showed that there is significant difference in general health related quality of life based on the KL grading of KOA. ($P=0.02, P=0.04$) Study concluded that general HRQoL worsens with higher grading of KOA. The results showed that there was a substantial discrepancy witnessed between males and females where females encountered more pain. As stiffness increases HRQoL decreases. More severity of pain was observed in depressed people. (Roger B. Fillingim, et al., 2020)

Conclusion: Daily challenges and actions, of which some may be unusual to sufferers in a pastoral setting in India, underlie sedentary and effective strategies to Osteoarthritis and its control. The study concluded that a significant difference in pain and general quality of life based on the KL grading of KOA ($P=0.02, P=0.04$) was observed. (Hye-Young Shim, et al, 2018) It was also found that there is a considerable difference in pain based on the duration of knee osteoarthritis ($P=0.05$). (Aliasghar A. Kiadalar, et al., 2017).

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Introduction:-

As of 2020 with the whole global pandemic situation, the healthcare industry suffers from myriad vulnerabilities and a lack of capabilities. (The "Covid-19" has wreaked havoc in the world and will end any time soon bestowing innumerable challenges shortly. India is one of the most densely populated countries with over 1.3 billion population - out of which 66% abides in the rural setting. With an enhancement in life expectancy and the quality of living,

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people live up to 70 years of age. Roughly 13% of women and 10% of men 60 years of age have symptomatic KOA (Knee OsteoArthritis). Those older than 70 years have approx. 40% possibility of developing KOA. One study found that only 15% of patients with radiographic findings of KOA were symptomatic - about 240 cases per 100,000 people per year (not factoring in age). (AstraZeneca, 2021)

Osteoarthritis (OA) is the most prevalent musculoskeletal disorder occurring far and wide. OA refers to a clinical disease of joint pain with multifactorial etiopathogenesis that is characterised by the degeneration of the articular cartilage, asymmetric joint space narrowing, subchondral bone remodelling, osteophyte formation, inflammation of the joint-1 in addition to the structural and functional limitations induced by KOA affecting the social relationships, emotional well-being, and reduced quality of life (QoL) in patients. (Di Chen, 2020) This arthritis majorly occurs in the joints, hip, knee, hands, great toes, and spine. The risk of developing OA in the knee is about 46% while in the hip 25%. The spread of knee Osteoarthritis on grounds of clinical criteria has been analysed to be 4.4% in rural areas and 3.4% in urban India, respectively. (Monique A. M. Gignac, et al., 2020)

Symptoms comprise: knobby swelling at the joint, cracking or grinding noise with joint movement, joint pain and stiffness, decreased function of the joint, etcetera. Risk factors comprise family background with OA patients, older age, obesity, joint deformity such as knocked knees, unequal leg length or bow legs, overuse of joints, previous traumatic joint injury and so on. OA can cause tremendous effects on both mental and physical health, stress, work, quality of life, and social engagement. In older people, the risk of depression is common and they often encounter several alterations in their routine life, which encompasses: chronic pain, illness and disability, health issues, damage to the body due to surgery, cognitive decline, and sickness. This leads to societal, economic burden, and mental health conditions later down the line. Chronic pain plays a crucial role in incapacitation, making it difficult (almost impossible) for patients to perform routine activities with comorbid psychiatric disorders, primarily major depressive status, which causes reduced quality of life (HRQoL), substantial disability, and increased healthcare costs.

Ageing is a vital risk factor in the development of KOA. It is highly influenced by the production of inflammatory products (leukotrienes and cytokines that increase the synovial space and cause rapid joint damage), and inflammation of the synovium (synovitis). As of now, why synovitis is induced is mostly unclear. Although KOA is closely associated with ageing, it is extremely crucial to note that it's not simply a consequence of ageing, but rather its disease. Significantly, the measurement of QoL in KOA is improving in clinical practise and research. As far as we can comprehend, this is the first systematic review that summarises existing studies results reporting QoL in KOA patients combined with individual factors such as comorbidities (diabetes, obesity), lifestyle (functional independence), or demographics (age, gender). (Sophie Coleman, 2020)

Treatment for KOA commences with conservative techniques and progresses to surgical treatment options when conservative treatments don't work. OA ranks out to be one of the top 10 causes of disability worldwide. Medication, commonly non-steroidal anti-inflammatory drugs (NSAID), and surgical intervention and the use of analgesics are options commonly offered to patients with OA. (Karen Walker-Bone, et al., 2020)

These treatments have partial efficacy in relieving the symptoms of the disease, and long-term use can result in cardiovascular, renal, and gastrointestinal side effects. The broad search strategy identified articles as reporting information on QoL associated with one other factor (demographic and lifestyle) between KOA patients and control patients. The quality appraisal tool revealed all studies to show moderate effects, yet precaution should be taken in the interpretation of the findings.

Materials & Methods:-

Study design

A cross-sectional, telephonic study was done on knee osteoarthritis subjects above 50 years of age. Socio-demographic scales and details, i.e., WOMAC, SF-12, PHQ-9 et al were applied. (Adam Hutchings, et al., 2007)

Setting

The study was undertaken in the Department of Orthopedics Surgery, KGMU, Lucknow, India from JAN 2018 to JAN 2020 to comprehend the health-related quality of life (QoL) in the elderly with KOA. (Ankur Jhanwar, et al., 2015)

Participants

Subjects giving consent for participating in a telephonic survey, with 50 years of age who had visited IPD and OPD of the department of orthopaedic surgery 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.

Variables

A semi-structured proforma was used to assess the socio-demographic variables like age, gender and locality, clinical variables like diagnosis, episode of illness and length of stay. The diagnosis was made by senior consultants/doctors of the Department of Orthopaedics.

Data sources

Demographic data were collected using a questionnaire specifically developed for the study. Subjects were contacted over the phone from 10 am - 2 pm and the call was recorded respectively. The survey was completed in a maximum of 2 sessions, 15 minutes each if the subject was not comfortable answering questions in the first session. Basic interview subjects were evaluated using scales which comprise PHQ-9, SF-12, and WOMAC (each assessment took 20-30 minutes).

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's Exact test on grounds of group numbers of variables. Non parametric data groups were estimated using Chi Square test. Longitudinal data was analysed using ANOVA or t-test depending upon groups. Pearson's correlation coefficient was used to analyse correlation between variables.

Participants

Subjects giving consent for participating in a telephonic survey, with 50 years of age who had visited IPD and OPD of the Department of Orthopaedics (Lucknow, India) with osteoarthritis of the knee based on ACR guidelines from JAN 2018 to JAN 2020.

Results:-

Fig-1:

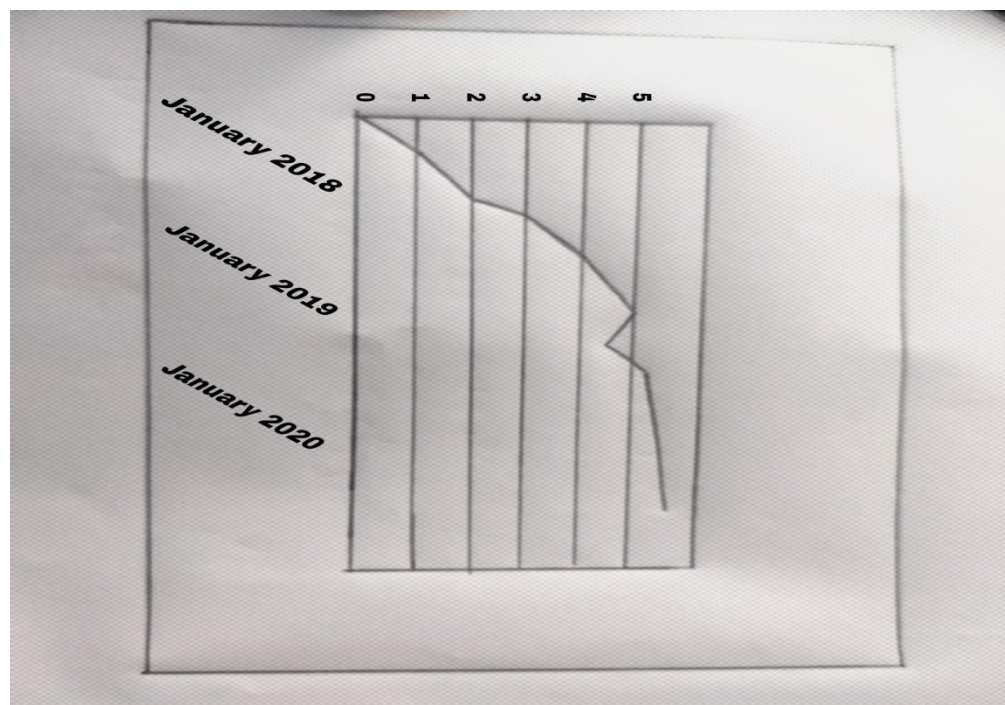


Fig-1:- shows frequency of participants with KOA from January 2018 to January 2020.

**Fig-2:-
GENERAL**

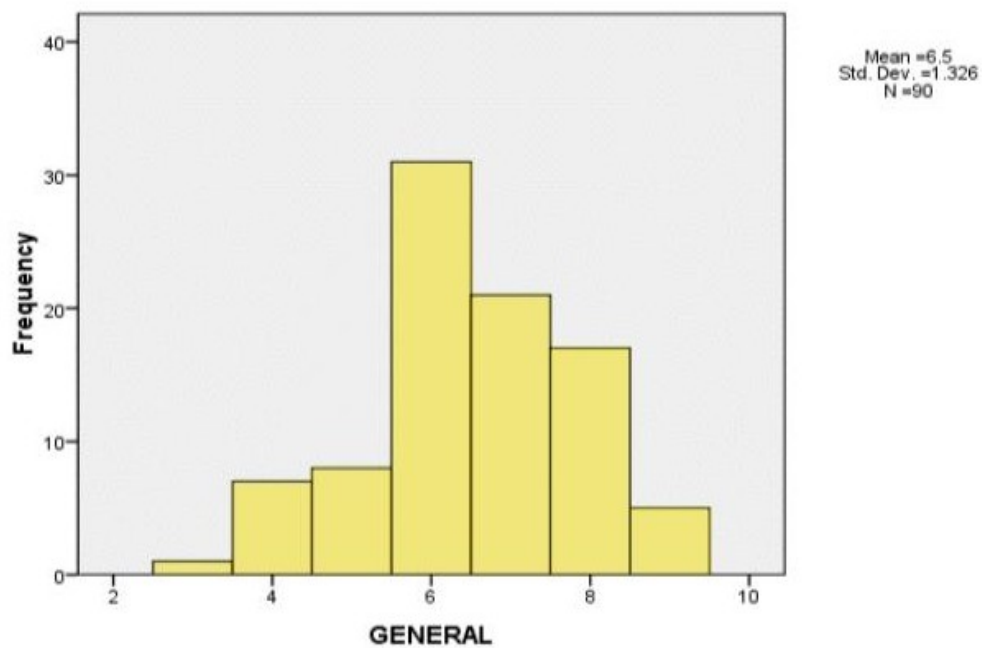


Fig-2 showing frequency distribution of general HRQoL.

**Fig-3:-
PHYSICAL**

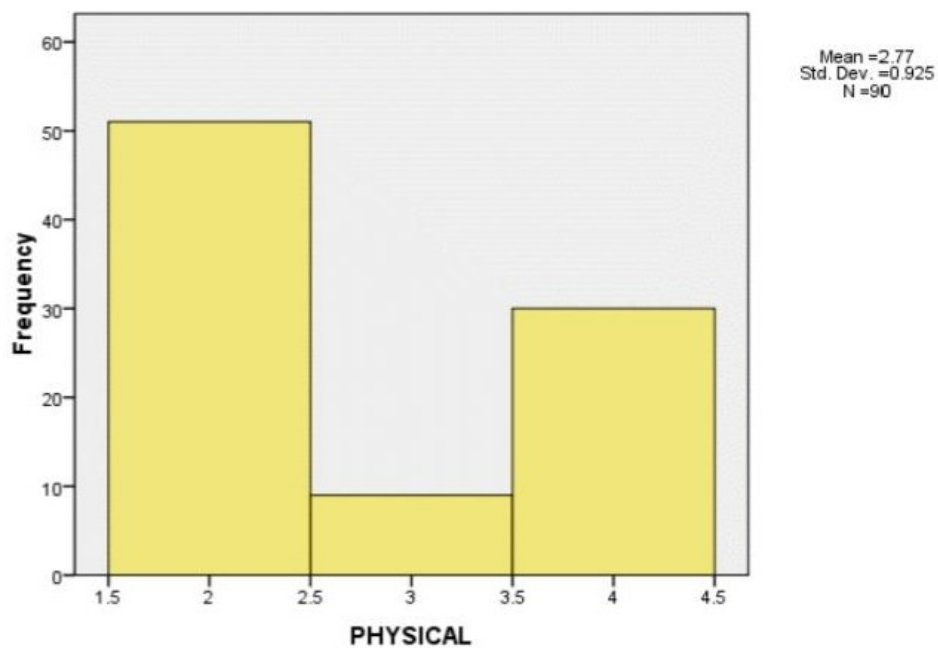


Fig-3 showing physical HRQoL.

**Fig-4:-
EMOTIONAL**

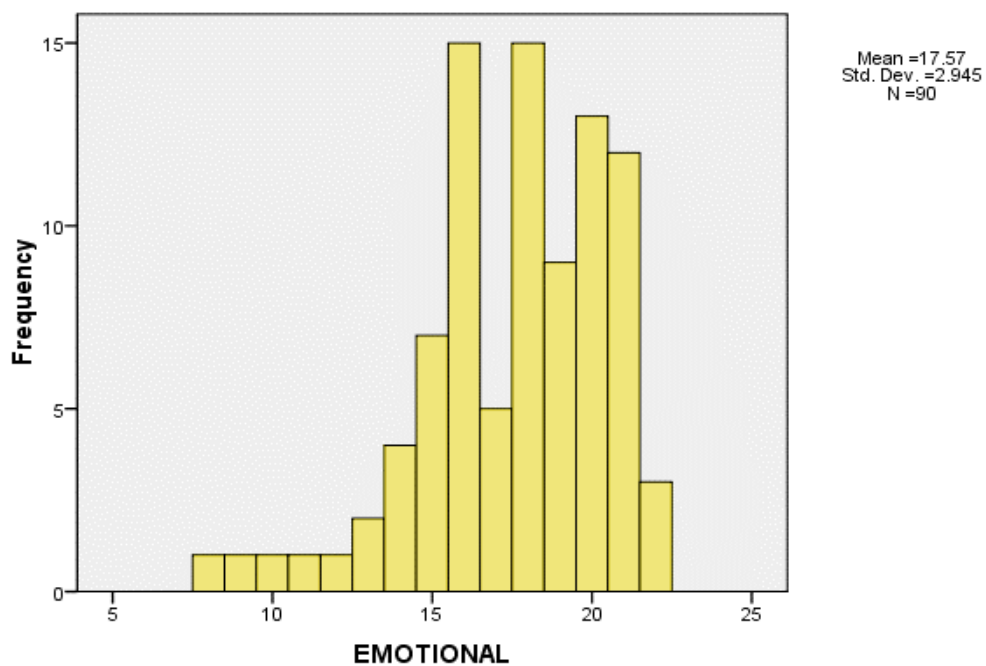


Fig-4 showing emotional HRQoL.

**Fig-5:
SOCIAL**

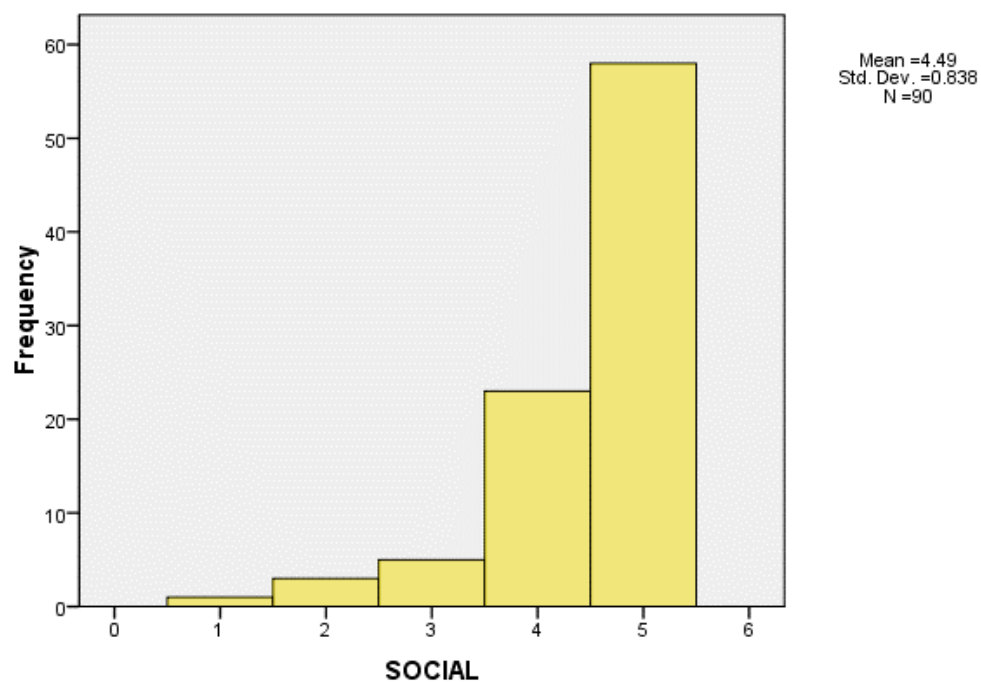


Fig-5 showing social HRQoL.

**Fig-6:-
DEPRESSION**

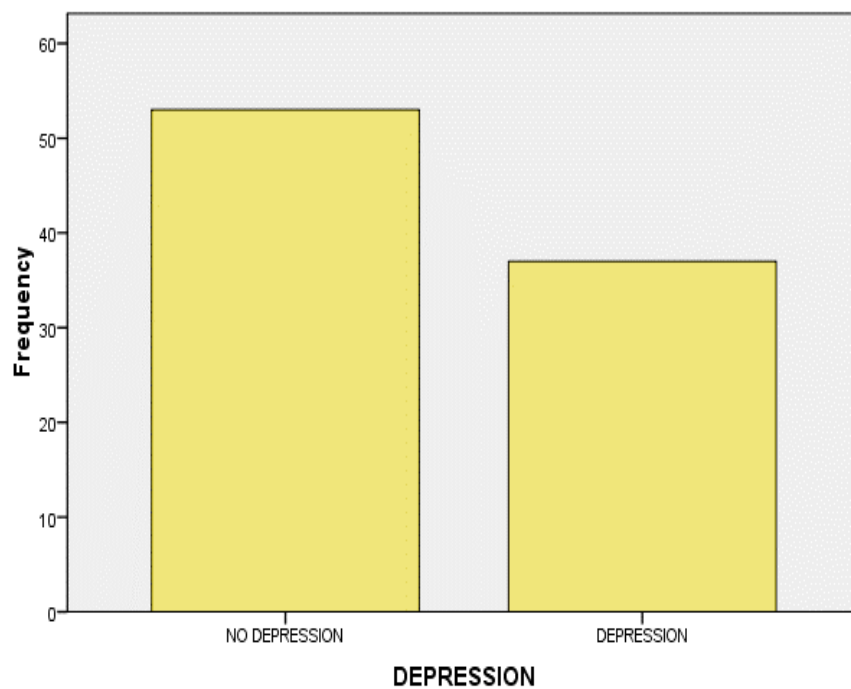
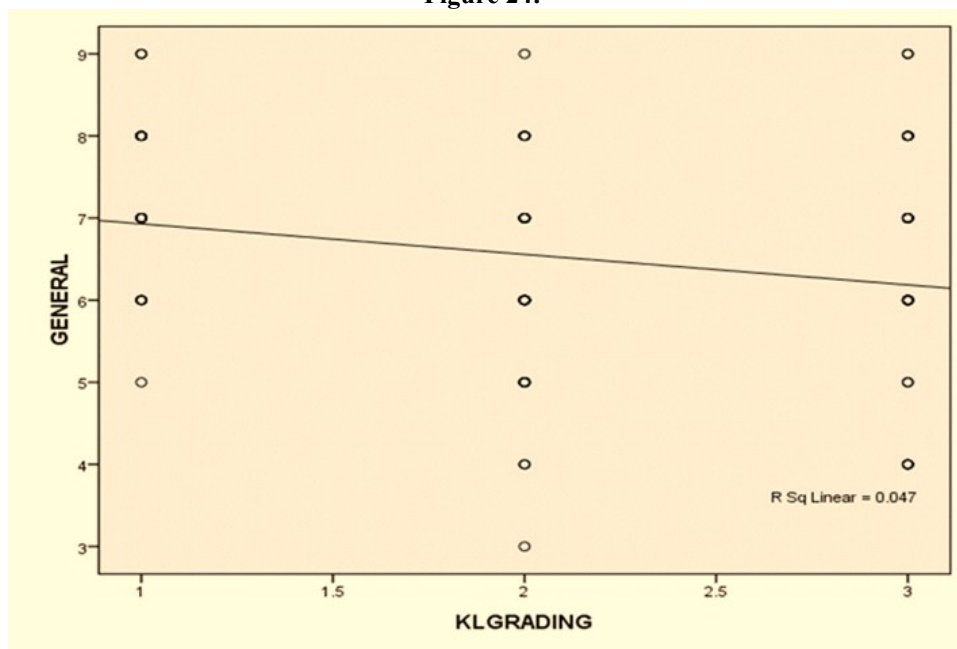


Fig-6 showing depression in patients with HRQoL.

Figure 24:-



Scatter plot showing significant difference in general QoL between KL grades. General QoL decreases with increasing grades. (figure 24)

Table-1:-

AGE GROUP	FREQUENCY	PERCENTAGE
50-60	9	19.78%

60-70	13	27.36%
70-80	2	5.42%
90-100	8	16.23%
Above 100	14	28.90%

Table-1 shows the socio-demographic profile of the patients visiting the Department of Orthopaedics belonging to the age group of 50 years and above.

Table 2:- 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 3:- Stiffness and SF12 and Stiffness and pain.

STIFFNESS * SF12 and PAIN	Chi-Sq	P
STIFFNESS AND SF 12	97.9	0.001
STIFFNESS AND PAIN	60.7	0.4

Discussion:-

The initial research examines the patient viewpoint on methods toward knee OA and its surveillance. It accordingly furnishes recent evidence beyond that documented in a prior study examining such viewpoints in urban and rural neighbourhoods in Western high-income countries. The categories comprise passive or active methods toward the disorder and its surveillance, and the subcategories indicate patients' customary challenges and struggles underlying these strategies. Hence, our results demonstrate that age is a major risk factor in the development of the disease. Also, the prevalence of KOA in females is more than that in males. Interestingly, not everyone who demonstrates the radiographic findings of KOA will be symptomatic. In this study, we also found that KOA is not just a degenerative joint disease, but a much more complex disease driven by inflammatory mediators. Certain approaches toward the ailment and its management among patients with knee OA are identical rather than varied in numerous parts of the nation.

An unusual result of our study was poverty as one explanation for the awareness of a lasting crusade (no proper awareness about the very disease is also one of the reasons that it's spreading worldwide). Poverty was anticipated to border likelihoods to make conscious preferences and to have the money for applicable management of the ailment, as well as to elicit a sense of inequality. Our results also highlight ergonomic challenges, such as kneeling, crouching and cross-legged sitting, particular to work and day-to-day life in India. These are a portion of cultural behaviour and might accordingly be tough to adjust to in all circumstances. Nonetheless, living with knee OA is a balancing act between striving for moralities and dangers and this is further aided by our results, not only considering chore and daily life, but also considering therapies, physical modalities, and workout, where patients communicated both pros, cons, and contradiction with the varied treatments.

Limitation

Quantitative data is lacking in this summary; however, qualitative summaries and recent quantitative reports have been used that emphasizes the significance of estimating these factors and implementing a whole-person approach to healthcare. Another possible limitation is that the meetings for our study were relatively straightforward and quick.

Conclusion:-

Everyday challenges and struggles, of which some may be unusual to patients in a rural setting in India, underlie passive and active strategies to knee OA and its surveillance. Indian physiotherapists might require carrying out evidence-based self-management policies modified to Indian circumstances as well as aid the organization of patient configurations to entrust their patients and lessen their discomfort. (Ajdacis-Gross.V, et al. 2013)

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Conflicts of interest-

There are no conflicts of interest.

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