A study to assess the prevalence of joint pain among older adults residing in selected villages in puducherry

Mrs.M. Sindhuja
Guide, Assistant Professor, Sabari College of Nursing, Kirumampakkam, Puducherry, India.
Email – hemachandiran2522@gmail.com   and   sindhubruno3@gmail.com

Abstract:

BACKGROUND: A Joint is defined as the junction where bones and muscles come together, facilitating movement and stability. Normal joint function is ability to move throughout its range of motion and bear weight .Discomfort in the joints is called joint pain. Sometimes the joint swells and feels warm as well. Joint pain can be a symptom of many ailments.

OBJECTIVES: 1.To assess the level of joint pain among older adults in experimental and control groups..2. To associate the level of joint pain among older adults with their selected socio demographic variable.

METHODOLOGY: A Non -Experimental research design with purposive sampling was adopted for the study. Sample size was 60 were selected in Moorthikuppam and Panithittu and the data was analyzed using descriptive and inferential statistics.

RESULTS: The study findings revealed that 38 (63.3%) of them having moderate level of pain and 22(36.7%) of them having severe level of pain with mean score of 3.333 and standard deviation of 0.479. Out of 60 samples, the majority of 41(68.3%) are female and most of them 22(36.6%) in the age group of 51-55 years .

CONCLUSION: In the present study, following conclusion drawn from the findings of the study. Most of the participants are not known about the joint pain .so, there is a need of health education needed for women in age group 51-55 years .

Key Words: older adult, joint pain, osteoarthritis, puducherry.

1. INTRODUCTION:

According to the report of the Technical Group on population projections for India and states 2011-2036, there about 138 million elderly people in India in 2021(67 million males and 71 million females) and is further expected to reach around 56 million elderly people in 2031.State wise data on elderly population of 21major states divulge that Kerala has the maximum proportion of elderly population (16.5%) followed by Tamil Nadu (13.1%) in 2021. As per 2011 census, regarding the urban and rural areas, 71% of elderly lives in the rural areas while 29% lives in urban areas.

The global prevalence of knee osteoarthritis was 16% in people aged 15 and above and was 22.9% in the people aged 40 and above. In 2020 the individual aged 40 and above with knee osteoarthritis is around 654.1 million. The prevalence and incidence in females and males were 1.69 and 1.39 respectively. A Joint is defined as the junction where bones and muscles come together, facilitating movement and stability. Normal joint function is ability to move throughout its range of motion and bear weight. At these joints, the articulating surfaces of the adjacent bones can move smoothly against each other.

Mayo clinic (2013) explained that joint pain is discomfort that arises from any joint (the point where two or more bones meet). Joint pain is sometimes called arthritis or arthralgia. Women are the persons who are most affected by joint pain then men, so their daily living activities are altered. Most of the joint pain can be successfully managed at home itself through various home remedies.

2. OBJECTIVES OF THE STUDY :
➢ To assess the level of joint pain among older adults in experimental and control groups.
➢ To associate the level of joint pain among older adults with their selected socio demographic variable.

CRITERIA FOR SAMPLE SELECTION:
> **INCLUSION CRITERIA:**
> - Older adults with joint pain and belong to 50-75 years of age
> - Older adults who were willing to participate in this study.
> - Older adults who were able to speak and understand Tamil.
>
> **EXCLUSION CRITERIA:**
> - Older adults who are not available during the time of data collections.
> - Older adults who are not willing to participate in this study.

3. LITERATURE REVIEW:

Trina sengupta et al (2023) had conducted a mixed method study on Chronic musculoskeletal pain among elderly individuals in a rural area of West Bengal. The objective of the study was to determine the prevalence of chronic musculoskeletal pain and its associated factors among individuals (age ≥60 years) in rural West Bengal and explore their perspectives and perceived barriers regarding pain and its management. A mixed -method study was carried out among 255 elderly participant (age>60).Data was collected by using a structured questionnaire and analyzed by using SPSS version 16 and logistic regression models. The present study showed up the 56.8% reported chronic musculoskeletal pain. The most frequently affected site was the knee joint. Finally the researchers highlights Managing co morbidities, providing mental support, generating awareness of analgesic side effects, strengthening healthcare facilities should be prioritized for holistic chronic musculoskeletal pain management .[16]

Sumaiyah Mat et al (2023) had conducted a cross sectional study about Gender differences in the associations between knee pain and urinary incontinence in older adults. The study aimed to identify the potential associations between knee OA symptoms and urinary incontinence and further explore sex differences in the associations. A cross-sectional study from a longitudinal research study comprising 1221 community-dwelling older persons (57% women), mean age (SD) 68.95 (7.49) years. The study has revealed that Two hundred and seventy-seven (22.83%) individuals reported the presence of urinary incontinence: mixed (41.5%), stress (30%), and urge (28.5%) symptoms. Finally the researcher highlights after further adjustment of demographics differences and body mass index, the association between knee pain with any urinary incontinence and mixed symptoms remained significant with the odds ratios (95% confidence interval): 1.48 (1.02-2.15) and 1.73 (1.06-2.83),respectively.[13]

Grace H Lo et al (2022) has elaborated a longitudinal study about theIncreased risk of incident knee osteoarthritis in those with greater work-related physical activity. The objective of this study was to evaluate the association between work-related physical activity and knee OA incidence. A person based longitudinal study was conducted among 951 participants. Data was collected by OA as Kellgren-Lawrence grade ≥2. Questions from the Physical Activity Scale for the Elderly at baseline and annual OAI visits provided information about work-related physical activity level and hours. The study concluded with people performing work that require walking while handling some materials have greater odds of incident knee OA than those with jobs mostly involving sitting.[12]

4. MATERIALS AND METHOD:

The study was Non-Experimental Design with purposive sampling technique was used to select 60 subjects in the selected villages in Puducherry. On the same day the researcher assessed demographic data of each subject. The tool used for the data collection was a WOMAC scale. After obtaining informed consent, data was collected through that standardized tool. After the data was collected both descriptive and inferential statistics were used to analyse the data. The descriptive statistics used were mean, standard deviation, frequency and percentage. Inferential statistics such as chi square was used to find out the association among the demographic variables level of joint pain.

DATA COLLECTION PROCEDURE:
The data was collected with standardized Western Ontario and McMaster universities OA index (WOMAC) scale. At data collection the researcher obtained permission. The researcher introduced themselves and explained about the topic and objectives of the study to the subject and obtained informed consent from all the subjects. Initially researcher screened all the older adults in selected areas of Puducherry by using Western Ontario and McMaster

universities OA index (WOMAC) scale. Purposive sampling technique was used to select 60 subjects and the level of joint pain is assessed and the researcher assess the demographic data of each subject .This showed in table 1 and 2.

5. DISCUSSION:

Similarly the study was conducted by: **Guangdong** (2020) study about the estimation of the osteoarthritis among the people conducted random effects meta analysis to generate estimation .For this study, we searched PUBMED, EMBASE and SCOPUS from inception to April 4, 2020, without language restriction. Out of 9570 records identified, 88 studies with 10,081,952 participants were eligible for this study. The pooled global prevalence of knee OA was 16·0% (95% CI, 14·3%-17·8%) in individuals aged 15 and over and was 22·9% (95% CI, 19·8%-26·1%) in individuals aged 40 and over. Correspondingly, there are around 654·1 (95% CI, 565·6–745·6) million individuals (40 years and older) with knee OA in 2020 worldwide. The pooled global incidence of knee OA was 203 per 10,000 person-years (95% CI, 106–331) in individuals aged 20 and over. Correspondingly, there are around annual 86·7 (95% CI, 45·3–141·3) million individuals (20 years and older) with incident knee OA in 2020 worldwide.

6. RESULT :

The study findings as showed in table 1 and 2 revealed that 38 (63.3%) of them having moderate level of pain and 22(36.7%) of them having severe level of pain with mean score of 3.333 and standard deviation of 0.479. Out of 60 samples, the majority of 41(68.3%) are female and most of them 22(36.6%) in the age group of 51-55 years.

7. RECOMMENDATIONS:
1. Based on the finding of the study the following recommendation has been made for the further study.
2. Replication of the study may be done with large sample .
3. Similar study can be done for a longer period to changes in joint pain.
4. The same study can be repeated using true experimental design.

8. CONCLUSION / SUMMARY:

Ageing, though it is a physiological phenomenon, needs much attention to alleviate Physical and psychological problems of the clients, due to urbanization and industrialization, many of the clients are forced to sedentary lifestyles, and lack of physical activities. In the present study, following conclusion drawn from the findings of the study. Most of the participants are not known about the joint pain .so, there is a need of health education needed for women in age group 51-55 years .

Tables:
Table 1: Frequency and Percentage distribution of selected demographic variables among older adults with joint pain in experimental and control groups.

n=60

SL. NO	VARIABLES	COMPONENTS	FREQUENCY	PERCENTAGE
1	AGE (in years)	46-50years	7	11.7%
		51-55years	22	36.7%
		56-60Years	10	16.6%
		>60years	21	35%
2	GENDER	Male	19	31.7%
		Female	41	68.3%
3	MARITAL STATUS	Married	59	98.3%
		Unmarried	1	1.7%

4	TYPE OF FAMILY	Nuclear	27	45%
		Joint family	19	31.7%
		Extended	14	23.3%
5	EDUCATION	Illiterate	26	43.3%
		Primary School	24	40%
		Secondary school	8	13.3%
		Graduate	2	3.4%
6	OCCUPATION	House Wife	38	63.4%
		Self Employee	6	10%
		Private Employee	0	0%
		Daily Wages	15	25%
		Government Employee	1	1.6%
7	FAMILY MONTHLY INCOME	$\geq$Rs.20000	0	0%
		Rs.10000-20000	8	13.3%
		Rs.5000-10000	20	33.3%
		<Rs. 5000	32	53.4%
8	DURATION OF PAIN	0-1 year	16	26.7%
		2-3 Year	32	53.3%
		4-5 Year	12	20%
9	NATURE OF WORK	Sedentary Work	14	23.4%
		Moderate Work	23	38.3%
		Heavy Work	23	38.3%
10	WHEN YOU WILL FEEL THE PAIN	Walking	16	26.6%
		Sitting	26	43.4%
		Any Doing Work	10	16.6%
		Always	8	13.4%
11	WHAT TYPE OF PAIN RELIEF METHOD DO YOU USE DURING PAIN?	Topical Application	1	1.6%
		Home Based Remedies	2	3.4%
		Oral Analgesics	6	10%
		Nil	51	85%

12	AFFECTED KNEE JOINT	Right	14	23.3%
		Left	22	36.7%
		Both	24	40%
13	TYPE OF RESIDENCE	Rural	60	100%
14	IMPACT ON ACTIVITIES OF DAILY LIVING	Interfering Little With Activities Of Daily Living	10	16.7%
		Interfering Significantly With Activities Of Daily Living	31	51.7%
		Unable To Perform Activities Of Daily Living	19	31.6%
15	UN HEALTHY HABITS	Smoking	1	1.6%
		Alcohol	7	11.6%
		Drug Intake	1	1.6%
		None	51	85%

Table 1 reveals that out of 60 samples, the majority of 41(68.3%) are female and most of them 22(36.6%) in the age group of 51-55 years

Table 2 Frequency and Percentage distribution of level of joint pain among older adults

n=30

Level of joint pain	DATA	
	Frequency (n)	**Percentage (%)**
Moderate	38	63.3%
Severe	22	36.7%

Table 2 reveals the level of joint pain among older adults. The findings shows that, 38(63.3%) of them having moderate level of joint pain, remaining 22 (36.7%) of them were in severe level of joint pain and none of them were in none, mild and extreme level of joint pain.

REFERENCES:

1. Bang AA, Bhojraj SY et al, Burden of pain in back and extremities in rural population: A community-based estimation of 12-month prevalence, distribution and duration of pain in rural Gadchiroli, India. J Glob Health 2021 volume 11(12001)
2. Barczi SR, Teodorescu M, Medical and psychiatric disorders and the medications used to treat them. In: Principles and Practice of Sleep Medicine.,Elsevier; 2011. Page no 1524–1535.
3. Cui, Aiyong et Al. "Global, Regional Prevalence, Incidence And Risk Factors of Knee Osteoarthritis In Population-Based Studies." Eclinical Medicine Nov. 2020, Volume 29-30
4. Dahlhamer J, Lucas J, Zelaya C, Nahin R, Mackey S, Debar L, et Al. Prevalence of Chronic Pain and High-Impact Chronic Pain among Adults -United States, 2016. Volume 67(36) ,Page No1001–1006.
5. De Souza, Ingredmerllin Batista et Al, "Prevalence of Low Back Pain in The Elderly Population: A Systematic Review." , Volume 74 Oct. 2019
6. Hall, Michelle et Al, "Neurobiology of Osteoarthritis: A Systematic Review And Activation Likelihood Estimation Meta-Analysis." Scientific Reports, Volume 13
7. Hong JW et al, The Prevalence of and Demographic Factors associated with Radiographic Knee Osteoarthritis in Korean Adults Aged more than 50 Years: The 2010–2013 Korea National Health And Nutrition Examination Survey, 2020 volume 15(3)
8. Jaiswal, Abhishek et Al, "Prevalence Of Knee Osteoarthritis, Its Determinants, and Impact on The Quality of Life in Elderly Persons in Rural Ballabgarh, Haryana." Journal Of Family Medicine And Primary Care, Volume 10,1 (2021) page no 354-360.
9. Kessler, Christian S et Al. "Ayurveda in Knee Osteoarthritis-Secondary Analyses of A Randomized Controlled Trial." Journal of Clinical Medicine, Volume 11, page no 3047. 28 May. 2022.
10. Kirubakaran, S, and Amol R Dongre. "Chronic Musculoskeletal Pain Among Elderly in Rural Tamil Nadu: Mixed-Method Study." Journal of Family Medicine and Primary Care, Volume 8,1 (2019), page no 77-85
11. Kumar, Harish et Al. "Epidemiology of Knee Osteoarthritis using Kellgren and Lawrence Scale in Indian Population." Journal Of Clinical Orthopaedics and Trauma Volume 11, (2020), page no S125-S129.
12. Lo, Grace H et Al, "Increased Risk of Incident Knee Osteoarthritis in those with greater Work-Related Physical Activity." Occupational and Environmental Medicine Volume 79,8 (2022),Page No543-549
13. Mat, Sumaiyah et Al. "Gender Differences in the Associations between Knee Pain and Urinary Incontinence in Older Adults: Cross-Sectional Analysis From The Malaysian Elders Longitudinal Research Study (Melor)." Neurourology And Urodynamics Volume 42,3 (2023) Page no: 641-649
14. Pal CP, Singh P, Chaturvedi S, Pruthi KK, Vij A, Epidemiology of Knee Osteoarthritis in India and Related Factors. 2016 volume 50(5), Page No 518–22.
15. Rudnicka, Ewa et Al, "The World Health Organization (WHO) Approach to Healthy Ageing." Maturitas, Volume 139 (2020),Page No 6-11.
16. Sengupta, Trina et Al. "Chronic Musculoskeletal Pain among Elderly Individuals in a Rural Area of West Bengal: A Mixed-Method Study." Malaysian Family Physician : The Official Journal Of The Academy Of Family Physicians Of Malaysia ,Volume 18
17. Wallace B,Singer D et Al , Arthritis And Joint Pain, University of Michigan National Pool on Healthy Aging , (September 2022) Volume 2
18. Witkam, Rozemarijn et Al, "The Association between Lower Socioeconomic Position And Functional Limitations is Partially Mediated by Obesity in Older Adults with Symptomatic Knee Osteoarthritis: Findings From The English Longitudinal Study Of Ageing." Frontiers in Public Health ,Volume 10