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Awareness, Symptoms and Risk Factors Related to Symptomatic Knee Osteoarthritis in Middle Aged Adults of Rural Population

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Abstract

Purpose: Knee osteoarthritis (OA) is a prevalent degenerative joint disease characterized by cartilage breakdown and functional impairment. Its incidence is rising due to factors such as aging, sedentary lifestyles and obesity. Early detection and intervention are crucial for managing the condition effectively. Risk factors include age, obesity, previous joint injuries, genetics and occupational factors. Improved understanding and awareness of knee osteoarthritis can help reduce its impact on individuals and health care systems. This study seeks to ascertain how well-aware middle-aged adults of rural population about symptoms and risk factors of knee osteoarthritis. To determine the prevalence, signs, and risk factors for symptomatic knee osteoarthritis in middle-aged persons in rural areas.

Methodology: From March until the beginning of August 2023, a cross-sectional survey was undertaken in the Pakistani district of Sialkot to raise awareness about the study. Both men and women of Pakistani nationality were included, but only those who were 40 to 60 years old. A self-administered questionnaire was used to collect data on sociodemographic traits, knowledge of the condition, symptoms, and

risk factors associated with symptomatic knee osteoarthritis in middle-aged persons living in rural areas. Any ambiguities or concerns students had about the questions were clarified and addressed prior to the start of any data gathering activities.

Findings: There were 167 (45.26%) males and 202 (54.74%) females. The education level were 139 (37.94%) primary studied people, 96 (24.39%) middle studied people, 93 (25.47%) matric studied people and 45 (12.20%) secondary studied people who lived in rural area.

Recommendations: In conclusion, improving middle-aged persons' low levels of OA awareness and understanding has enormous potential for both personal and societal well-being. We can enable this age group to take control of their health, make informed decisions, and contribute to a healthy society by targeting them with targeted educational campaigns, seminars, and treatments. The effects go beyond one's own health, including economic output, the transmission of health information between generations, and a greater feeling of social wellbeing.

Keywords: *Knee Osteoarthritis (OA), Distribution, Influences, ACR Classification*

1.0 INTRODUCTION

The most common form of musculoskeletal disease, osteoarthritis (OA), is defined by the degeneration of articular cartilage that develops over time.¹ Knee osteoarthritis is a prevalent condition that significantly adds to the burden of physical disability. The purpose of this research was to investigate the factors that influence how well patients with symptomatic knee osteoarthritis perceive their own functional status.²

The most prevalent form of arthritis, osteoarthritis (OA), affects 240 million people globally and is a chronic condition. The most prevalent type of knee osteoarthritis, also known as "cartilage wear down," is lower limb type OA.³ Especially in elder people, pain in the body's large joints is common, knee joint pain is more common among senior people. The main cause of chronic knee pain in older people is osteoarthritis.⁴

The most prevalent type of joint disorder is osteoarthritis (OA), with knee OA ranking first among older people worldwide in terms of disability. The Knee Study also revealed a significant correlation between increased all-cause mortality and knee OA severity.⁵ The most prevalent musculoskeletal condition is osteoarthritis (OA), and as people mature, their risk of developing it rises.

Particularly in the elderly, the illness has been reported to have a remarkable impact on functional ability and to be the most frequently self-reported cause of disability in daily living activities.⁶ Symptomatic osteoarthritis of the knee that was unconnected to a particular illness. The patient must have experienced knee complaints such as the main issue. This finding might be a result of different genders reporting different OA symptoms.⁷

Current global rankings place symptomatic knee OA as the fourth most common cause of impairment. Both a clinical and radiological diagnosis of knee OA are possible. It is a clinical illness with subjective symptoms of joint discomfort with movement and bony swelling, as well as deformity and stiffness in the knees as determined by physical evaluation.⁸

Knee osteoarthritis (OA) is a degenerative joint condition characterized by chronic, irreversible articular cartilage damage. The rubbing causes the knee joint to become malformed and causes pain, swelling, stiffness, inflammation, and reduced mobility.⁹ Adults' knee pain is primarily a reflection of their underlying osteoarthritis (OA), and it is more common in the elderly and when OA's radiological changes are severe. In community-based studies conducted around the globe, knee pain is the most common complaint involving a peripheral joint.¹⁰

Osteoarthritis (OA) is a significant contributor to pain, disability, and financial costs. In India, 80% of the populace has OA and reports knee pain. Regular exercise and nutrition maintenance are the best methods for managing and preventing OA. People are more susceptible to OA because they are unaware of protective measures.¹¹

The impact of pain and other OA symptoms on both physical and psychological aspects of one's quality of life may be significant. As a chronic disease affecting the entire joint, including the articular cartilage, meniscus, ligament, and peri-articular muscle, knee OA is not just a localized disease of the cartilage. It can be caused by a number of pathophysiological processes. Millions of people suffer from this excruciating and incapacitating condition.¹²

Osteoarthritis symptoms cause significant impairment. Patients experience a substantial or complete loss of function in their knee, which is the area most frequently affected. Osteoarthritis is presently the most common chronic joint disease that primarily affects people.¹³

Problem Statement

Physiotherapists are essential in the care of OA, but little is known about the risk factors for the illness in middle-aged women and the best ways to treat it. Improving the treatment given to OA patients

requires a better understanding of the views of physiotherapists. So, the purpose of this study is to look at the risk factors and how they choose their treatments.

Problem Question

What are the risk factors related to symptomatic knee Osteoarthritis, and how do these attitudes influence their choices in selecting treatments for OA patients?

2.0 METHODOLOGY

It was cross-sectional descriptive research. Data collections were done from the district of Sialkot. Data from the general middle aged adult's population were gathered. Data were collected specifically from willing subjects and with their informed consent. Paramedic staff, reported cases of fractures of involved knee, reported patellofemoral knee pain, taking medication were not allowed to participate in this study. Participants were shown the full scope and purpose of the study. For this study, a self-administered questionnaire was used. A pilot study involving 30 participants revealed that the questionnaire's reliability was 0.727. Demographics, awareness, symptoms and risk factors related questions were included in the questionnaire in four sections. 369 people were included in the study sample, and data were collected using a non-probability practical sampling technique. SPSS was used to analyze the data.

3.0 FINDINGS

During research period, 369 middle aged adults from the Sialkot District (Begowala village) were surveyed to determine awareness, symptoms and risk factors related to symptomatic knee osteoarthritis in middle aged adults. There were 12 questions in the questionnaire asked about awareness regarding symptoms and risk factors of symptomatic knee osteoarthritis. 3.79% people have no idea about risk factor, 35.50% people knowledge related to risk factors of symptomatic knee osteoarthritis.

Out of 369 participants 52.85% people thought that age is a risk factor of osteoarthritis whereas, 14.91% people answered previous knee injury may be the risk factor of knee osteoarthritis. 30.08% people answered that obesity is a risk factor and only 2.17% people answered family history due to lack of awareness most of the population had no knowledge about that disease. The goal of the study was to determine how well-informed the people of Sialkot District were about osteoarthritis (OA), its symptoms, and its risk factors, with a particular emphasis on the people who lived in Begowala village. A self-made questionnaire was provided to the participants in order to collect the data.

Table 1: Distribution of Sociodemographic Factors' Frequency

Variable		Frequency	Percentage%
Gender of participants	Male	167	45.26
	Female	202	54.74
	Total	369	100
Education of participants	Primary	139	37.94
	Middle	96	24.39
	Matric	93	25.47
	Secondary	45	12.2
	Total	369	100
Occupation of participants	Working	205	55.56
	Non-working	163	44.44
	Total	369	100

Table 2: Distribution of Sociodemographic Factors' Frequency

Have you or anyone you know ever been diagnosed with kneeosteoarthritis

	Frequency	Percent	Valid Percent	CumulativePercent
Valid No	91	24.7	24.7	24.7
Valid Yes	278	75.3	75.3	100.0
Total	369	100.0	100.0	

Have you experienced any of the following knee symptoms in the past 12 months?

	Frequency	Percent	Valid Percent	CumulativePercent
Valid No	130	35.2	35.2	35.2
Valid Yes	238	64.5	64.5	99.7
Total	369	100.0	100.0	

Are you aware of any risk factors for developing knee osteoarthritis?

	Frequency	Percent	Valid Percent	CumulativePercent
age	195	52.8	52.8	52.8
previous knee injuries	55	14.9	14.9	67.8
obesity	111	30.1	30.1	97.8
Valid family history of knee osteoarthritis	8	2.2	2.2	100.0
Total	369	100.0	100.0	

Do you believe that smoking or using tobacco products can increase risk of kneeosteoarthritis?

	Frequency	Percent	Valid Percent	CumulativePercent
Valid no	14	3.8	3.8	3.8
Valid yes	131	35.5	35.5	39.3
I am not sure	224	60.7	60.7	100.0
Total	369	100.0	100.0	

Do you experience stiffness or pain in your knee when you wake up in themorning?

	Frequency	Percent	Valid Percent	CumulativePercent
Valid no	169	45.8	45.8	45.8
Valid yes	200	54.2	54.2	100.0
Total	369	100.0	100.0	

Do you experience stiffness or pain in your knees at night that wakes you up from sleep?

	Frequency	Percent	Valid Percent	CumulativePercent
no	127	34.4	34.4	34.4
Valid yes	242	65.6	65.6	100.0
Total	369	100.0	100.0	

How severe is the stiffness or pain in your knee at night?

	Frequency	Percent	Valid Percent	CumulativePercent
mild	158	42.8	42.8	42.8
moderate	164	44.4	44.4	87.3
Valid severe	47	12.7	12.7	100.0
Total	369	100.0	100.0	

How long does the stiffness or pain in your knees at night?

	Frequency	Percent	Valid Percent	CumulativePercent
less than 30 minutes	305	82.7	82.7	82.7
30 minutes-1 hour	13	3.5	3.5	86.2
Valid more than one hour	51	13.8	13.8	100.0
Total	369	100.0	100.0	

Do you think that the stiffness or pain in your knees at night is related to knees at night is related to knee osteoarthritis?

	Frequency	Percent	Valid Percent	CumulativePercent
no	21	5.7	5.7	5.7
yes	26	7.0	7.0	12.7
Valid i am not sure	322	87.3	87.3	100.0
Total	369	100.0	100.0	

Have you noticed any swelling or redness in your knees?

	Frequency	Percent	Valid Percent	CumulativePercent
no	224	60.7	60.7	60.7
Valid yes	145	39.3	39.3	100.0
Total	369	100.0	100.0	

How would you describe the intensity of the warmth sensation in your knee?

	Frequency	Percent	Valid Percent	CumulativePercent
mild	173	46.9	46.9	46.9
moderate	149	40.4	40.4	87.3
Valid severe	47	12.7	12.7	100.0
Total	369	100.0	100.0	

Have you ever experience locking in your knee

	Frequency	Percent	Valid Percent	CumulativePercent
no	115	31.2	31.2	31.2
Valid yes	254	68.8	68.8	100.0
Total	369	100.0	100.0	

Discussion

This study analyzed the awareness levels and symptoms about OA and its risk factors present in the population of Sialkot District (Begowala village) Data was gathered through self-Generated questionnaire. Most participants were female (54.74%). The majority (77.5%) was a working person’s or above. The study found that of 906 participants, 371 (40.9%) had a good knowledge level regarding OA aspects such as risk factors, causes, symptoms, and management. A majority of 535 (59.1%) had poor knowledge and awareness levels.

This finding was similar to that of a study conducted in Jeddah, Saudi Arabia, which also found a low level of knowledge regarding OA among the study population. On the other hand, another study was conducted on the general population in Sudair, Saudi Arabia, found that the majority demonstrated good knowledge about OA.

Patients with knee osteoarthritis in each age group had different levels of osteoarthritis severity and QoL in the mental health aspect. Patients in the age group younger than 50 years had less osteoarthritis severity than the other groups. Low level of knowledge regarding OA is known to invite more misconceptions regarding OA as the people are not exposed to the kind of educational program.[12] These findings are similar to the present study that more than two-third (80%) of the adults had no exposure to knowledge on OA. To break the vicious path of false belief and misconception regarding occurrence of OA, properly planned systematic education program is needed badly to provide clear and crisp knowledge

The sample size of my research population was 369 there were 167 males and 202 female participants the awareness about symptoms and risk factors of symptomatic knee osteoarthritis was held in Begowala village district Sialkot. Self-administered questionnaire was given to the participants and they were answered the questions under my supervision. The study finding that most of the participants

had knowledge only by name of osteoarthritis. There were 12 questions in the questionnaire asked about awareness regarding symptoms and risk factors of symptomatic knee osteoarthritis. 3.79% people have no idea about risk factor, 35.50% people knowledge related to risk factors of symptomatic knee osteoarthritis.

Out of 369 participants 52.85% people thought that age is a risk factor of osteoarthritis whereas, 14.91% people answered previous knee injury may be the risk factor of knee osteoarthritis. 30.08% people answered that obesity is a risk factor and only 2.17% people answered family history due to lack of awareness most of the population had no knowledge about that disease. The goal of the study was to determine how well-informed the people of Sialkot District were about osteoarthritis (OA), its symptoms, and its risk factors, with a particular emphasis on the people who lived in Begowala village. A self-made questionnaire was provided to the participants in order to collect the data.

On the other hand, it was discovered that the majority of respondents—about 59.1% (535 people)—had low levels of OA knowledge and awareness. This discovery revealed a serious knowledge gap on the illness and its risk factors, which may have delayed an early diagnosis and the right course of treatment. It is significant to note that the study offered useful insights on the level of OA awareness and knowledge among the community of the Sialkot District (Begowala village) at the time of the research. However, more investigation and focused interventions could have been required to address the discrepancies in awareness levels and enhance general understanding about OA in the area. Through such initiatives, the burden of OA on the community could have been lessened and public health outcomes may have improved. According to the survey, 535 people, or around 59.1% of the respondents, had inadequate levels of knowledge and awareness regarding osteoarthritis. This shows that many residents of the neighbourhood had little knowledge about this medical issue. There may be detrimental effects if osteoarthritis is not recognised and understood. For instance, delays in the diagnosis of OA patients may have been brought on by inadequate knowledge. Early diagnosis is essential for starting prompt and efficient therapies, which may improve results for those living with the illness. The research was out in the Begowala hamlet of the Sialkot District gave important insights on the level of OA awareness and knowledge in that particular community at the time of the study. This information is significant because it sheds light on a possible knowledge gap in public health that may have wider ramifications. While the study highlights the awareness gap on OA, it also makes the need for more research and targeted therapies. To put it another way, it is not sufficient to just recognise an issue; meaningful awareness-bridging measures must be performed. According to the text, targeted initiatives might improve how well the public understands osteoarthritis in general. These interventions might consist of health promotion initiatives, workshops, or lectures. The general understanding of the population might be enhanced by offering correct information about OA, its risk factors, and available therapies.

The impact of osteoarthritis on the community might be reduced, according to the text, by addressing the awareness gap on the condition. This means that with more information, individuals could be better able to identify the symptoms and indications of OA, resulting in an earlier diagnosis and the right kind of treatment. The detrimental effects of OA on people's life and general public health may thus be lessened as a result. The last argument makes the case that if these initiatives were effective in increasing public understanding of osteoarthritis, it may have favourable effects on the state of the public health. Effectively preventing or controlling OA may result in healthier people, lower healthcare expenditures, and a better quality of life for all community members. The possibility for lower healthcare costs is one of the most observable advantages of increasing public knowledge of osteoarthritis. Early identification and effective treatment of OA can stop the condition from getting worse, hence lowering the need for expensive medical treatments like surgeries or long-term pain management. Those who are knowledgeable about OA are also more likely to adopt preventative measures and better lives, which may result in a decrease in the total incidence of OA cases. Health

care expenses for both people and the community are lowered as a result, which also reduces the strain on available resources.

4.0 CONCLUSION AND RECOMMENDATIONS

Recommendations

- Increase public awareness, symptoms and risk factors related to symptomatic knee osteoarthritis.
- Educational programs on symptoms and risk factors of symptomatic knee osteoarthritis should be held at the community level to raise awareness.

Conclusion

In conclusion, improving middle-aged persons' low levels of OA awareness and understanding has enormous potential for both personal and societal well-being. We can enable this age group to take control of their health, make informed decisions, and contribute to a healthy society by targeting them with targeted educational campaigns, seminars, and treatments. The effects go beyond one's own health, including economic output, the transmission of health information between generations, and a greater feeling of social wellbeing.

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