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Assessment of Knowledge and Practices Related to Non-Surgical Management of Osteoarthritis Among Patients in the Rural Community of Sri Ganganagar, Rajasthan

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Abstract

Introduction: Osteoarthritis (OA) is a degenerative joint disease that represents a major public health challenge, especially in rural communities where access to advanced healthcare is limited. This study aims to assess the knowledge, attitudes, and practices (KAP) related to the non-surgical management of osteoarthritis among patients in the rural district of Sri Ganganagar, Rajasthan, India.

Method: A cross-sectional descriptive study was conducted among 234 adult OA patients aged 45 and above, residing in selected rural areas of Sri Ganganagar. Participants were recruited using convenience sampling from local health centers and community clinics. The data were analyzed using descriptive statistics, Chi-square tests, and correlation analyses to explore associations between demographic variables and KAP levels.

Results: The study revealed that 29.9% of participants had adequate knowledge about OA, while 18.8% had inadequate knowledge. Regarding practices, 21.4% of participants demonstrated good practices in managing their OA symptoms, whereas 20.9% exhibited poor practices. Significant associations were found between age and education level with both knowledge and practice levels ($p < 0.05$). A moderate positive correlation was observed between age and knowledge score ($r = 0.45$, $p = 0.002$), and a strong positive correlation was found between knowledge and practice scores ($\rho = 0.60$, $p < 0.001$).

Conclusion: The findings underscore the need for targeted health education programs in rural communities like Sri Ganganagar to bridge knowledge gaps and improve adherence to non-surgical OA management practices. Enhancing patient education and integrating healthcare providers in the patient education process could significantly improve OA management and patient outcomes in rural settings.

Keywords: Osteoarthritis, Non-surgical management, Rural healthcare, Knowledge-attitude-practice.

Introduction

Osteoarthritis (OA) is a progressive, degenerative joint disease characterized by the deterioration of articular cartilage and the subchondral bone, leading to pain, stiffness, swelling, and loss of joint function (Felson, 2006). It is one of the most common causes of disability worldwide, particularly among older adults, posing a significant public health challenge (Vos et al., 2012). The global burden of osteoarthritis

is expected to increase sharply with the aging population and the rising prevalence of obesity, both of which are among the strongest risk factors for the disease (Loeser et al., 2012; Blagojevic et al., 2010).

In India, osteoarthritis is a leading cause of chronic pain and disability, affecting an estimated 15 million people (Pal et al., 2016). The condition is most commonly observed in the knee, hip, and hand joints, with knee osteoarthritis being the most prevalent (Mishra et al., 2020). The high incidence of knee osteoarthritis in India can be partly attributed to cultural practices, such as squatting and sitting cross-legged, which place considerable stress on the knee joints (Garg & Sharma, 2006). The lack of public awareness and the stigma associated with joint pain often lead to delayed diagnosis and treatment, exacerbating the severity of the disease (Patel et al., 2016).

Effective management of osteoarthritis primarily focuses on symptom alleviation, improvement of joint function, and enhancement of quality of life. Non-surgical interventions, including lifestyle modifications, physical therapy, pharmacotherapy, and complementary therapies, are central to the conservative management of osteoarthritis (McAlindon et al., 2014). These interventions are particularly crucial in rural settings, where access to advanced surgical options may be limited (Woolf & Pfleger, 2003). The success of these non-surgical strategies largely depends on patients' understanding and acceptance of their condition, knowledge of various treatment modalities, and adherence to recommended practices (Altman et al., 2015).

The Knowledge, Attitude, and Practice (KAP) model is a widely used framework for understanding health behaviors and designing interventions to effectively address public health challenges (Launiala, 2009). In the context of osteoarthritis, a comprehensive assessment of patients' knowledge about the disease and its treatment options, along with their actual practices, can provide valuable insights into barriers to effective management. This is particularly important in rural communities, where cultural beliefs, limited health literacy, and lack of access to healthcare resources can significantly impact health outcomes (Patel et al., 2016).

Sri Ganganagar, a rural district in Rajasthan, India, represents a unique setting for studying osteoarthritis management. The district is predominantly agrarian, with a significant portion of the population engaged in physically demanding labor, increasing the risk of joint wear and tear (Kumar et al., 2018). Additionally, the rural healthcare infrastructure in Sri Ganganagar is relatively underdeveloped, with limited access to specialized medical care and a heavy reliance on traditional and complementary medicine (Singh et al., 2014). These factors make it imperative to understand the local population's knowledge and practices related to osteoarthritis management.

By providing a comprehensive understanding of the KAP related to osteoarthritis management in this rural community, the findings of this study will inform the development of targeted health education programs and interventions. These programs aim to improve patient outcomes by enhancing their knowledge and encouraging better adherence to effective non-surgical treatment practices. Ultimately, this research contributes to the broader goal of reducing the burden of osteoarthritis in rural India and improving the quality of life for those affected by the disease.

Methodology

Study Design and Setting

This cross-sectional descriptive study was conducted in selected rural areas of Sri Ganganagar district, Rajasthan, to assess the knowledge and practices related to non-surgical management of osteoarthritis among adult patients.

Study Population

The study targeted adults aged 45 and above, diagnosed with osteoarthritis, and residing in the selected rural areas of Sri Ganganagar. Exclusion criteria included individuals with cognitive impairments and those who had undergone surgical interventions for osteoarthritis.

Sampling Technique and Sample Size

Convenience sampling was employed to select 234 participants from local health centers and community clinics in the selected rural areas. This sampling method was chosen due to logistical considerations and the accessibility of participants in these settings.

Data Collection Instrument

A structured questionnaire was used to collect data, comprising three sections: demographic information, knowledge assessment, and practice-related questions. The questionnaire was designed based on the KAP framework and adapted to the local context.

Data Analysis

Descriptive statistics were used to summarize the data. Chi-square tests were conducted to examine associations between demographic variables and KAP levels, while correlation analysis was performed to explore relationships between knowledge and practices.

Results

Table 1: Demographic Characteristics of Participants

Demographic Variable	Category	Number of Participants	Percentage (%)
Age	45-54 years	45	19.2%
	55-64 years	78	33.3%
	65-74 years	67	28.6%
	75 years and above	44	18.8%
Gender	Male	91	38.9%
	Female	143	61.1%
Education Level	No formal education	30	12.8%
	Primary education	65	27.8%
	Secondary education	85	36.3%
	Higher education	54	23.1%
Occupation	Unemployed/Retired	95	40.6%
	Manual labor	62	26.5%
	Office worker	37	15.8%
	Self-employed/Business	40	17.1%
Marital Status	Single	28	12.0%
	Married	167	71.4%
	Widowed/Divorced	39	16.7%

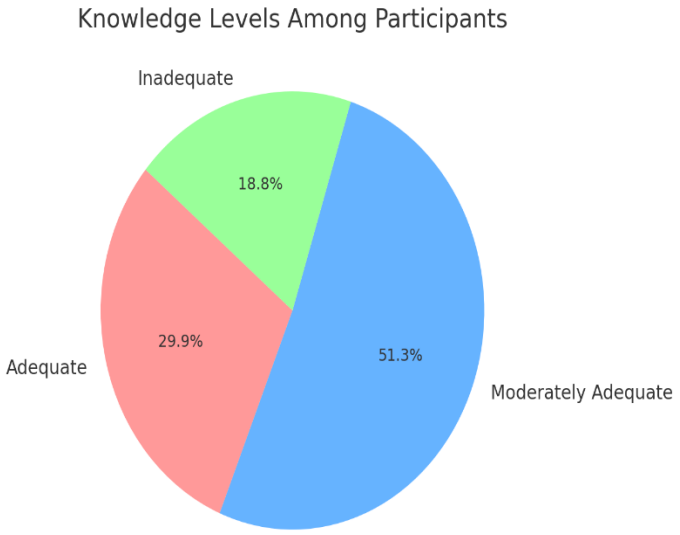
Table 2: Knowledge and Practice Levels

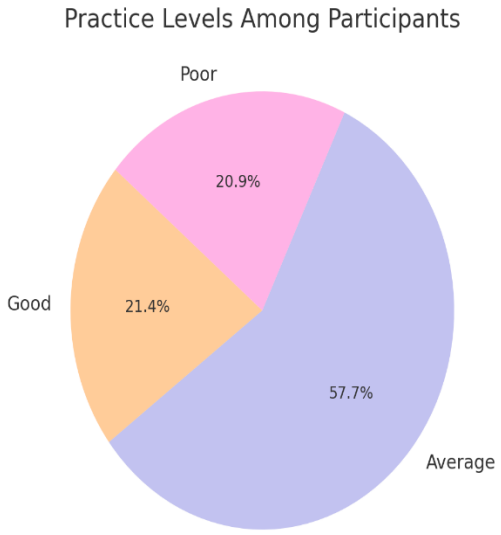
Category	Score Level	Number of Participants (N = 234)	Percentage (%)
Knowledge Score	Adequate	70	29.9%
	Moderately Adequate	120	51.3%

	Inadequate	44	18.8%
Practice Score	Good	50	21.4%
	Average	135	57.7%
	Poor	49	20.9%

Table 3: Chi-Square Test Results for Demographic Data

Demographic Variable	Knowledge Level χ^2	p-value	Practice Level χ^2	p-value
Age	12.45	0.029	14.22	0.014
Gender	5.67	0.059	4.78	0.091
Education Level	22.38	< 0.001	18.47	0.001
Occupation	10.91	0.089	11.67	0.072
Marital Status	8.54	0.201	9.33	0.152





Discussion

The findings of this study indicate a significant variation in the knowledge and practices related to the non-surgical management of osteoarthritis (OA) among patients in the rural community of Sri Ganganagar, Rajasthan. A large proportion of participants demonstrated only moderately adequate knowledge about OA and its non-surgical management options, with a notable gap in understanding critical aspects of the disease and its treatment. This gap is further reflected in the practices adopted by the patients, where the majority were found to engage in only average management practices, and a considerable number showed poor adherence to recommended non-surgical interventions.

These results are consistent with the findings from other studies conducted in various settings. For instance, a study by Hofstede et al. (2016) identified significant barriers to the adoption of non-surgical treatments for OA among patients and healthcare providers. The study highlighted that both groups often lacked adequate knowledge about guideline-recommended treatments, such as physical therapy and lifestyle modifications, which are critical for effective OA management (Hofstede et al., 2016).

A qualitative study by Selten et al. (2017) explored the views of healthcare providers on non-surgical, non-pharmacological care for hip and knee OA. The study found that many healthcare providers perceived

a lack of expertise and confidence in implementing non-surgical treatments, further complicating the referral process and patient adherence to such interventions (Selten et al., 2017). A systematic review by Egerton et al. (2017) emphasized that primary care management of OA often deviates from established clinical practice guidelines, primarily due to clinicians' knowledge gaps and the challenges in effectively communicating treatment options to patients. The review concluded that improving clinicians' knowledge and communication skills could significantly enhance the management of OA in primary care settings (Egerton et al., 2017). In comparison with these studies, our research provides additional insights specific to a rural Indian context, where cultural practices, limited health literacy, and access to healthcare resources pose unique challenges to effective OA management. The moderate positive correlation between age and knowledge scores observed in our study suggests that older patients may possess better knowledge, possibly due to more prolonged exposure to the disease and related healthcare interactions. However, the strong correlation between knowledge and practice scores highlights the critical need for targeted educational interventions to improve patient outcomes.

The study underscores the need for enhanced health education and targeted interventions in rural communities like Sri Ganganagar to bridge the knowledge gaps and improve adherence to non-surgical management practices for osteoarthritis. Addressing these challenges through community-based programs and better integration of healthcare providers in the patient education process could lead to significant improvements in the management and quality of life for OA patients in such settings.

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