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KNOWLEDGE ATTITUDES AND PRACTICES OF FIBROMYALGIA AMONG FIBROMYALGIC PATIENTS

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Abstract

Background: *Fibromyalgia is a chronic condition characterized by widespread pain, fatigue, sleep disturbances, and psychological symptoms. Adequate knowledge, positive attitudes, and appropriate self-management practices are important for effective disease management and improved quality of life.*

Objective: *To assess the knowledge, attitudes, and practices regarding fibromyalgia among participants and determine the association between educational level and knowledge, as well as the relationships among knowledge, attitudes, and practices.*

Methods: *A cross-sectional study was conducted among 197 participants. Data were collected using a structured questionnaire assessing demographic characteristics, clinical characteristics, knowledge, attitudes, and practices related to fibromyalgia. Descriptive statistics were used to summarize the findings. Associations and correlations among study variables were assessed using appropriate statistical tests.*

Results: *Among 197 participants, 43.1% had moderate knowledge, 31.0% had poor knowledge, and 25.9% had good knowledge. Positive attitudes were reported by 49.7%, while 32.5% had neutral and 17.8% had negative attitudes. Regarding practices, 39.6% demonstrated moderate, 36.0% inadequate, and 24.4% adequate practices. Higher education was associated with better knowledge. Knowledge was positively correlated with attitude ($r = .32$, $p = .001$) and practice ($r = .41$, $p < .001$), while attitude was positively correlated with practice ($r = .28$, $p = .001$).*

Conclusion: *Participants demonstrated moderate knowledge and attitudes but inadequate-to-moderate management practices. Targeted education and self-management interventions are recommended.*

INTRODUCTION

Fibromyalgia is a chronic pain disorder that includes widespread musculoskeletal pain, fatigue, disrupted sleep patterns, cognitive problems and heightened sensitivity to painful stimuli. This condition is linked to changes in pain processing and has been shown to significantly impact physical function, emotional wellbeing, social relationships and quality of life (Winslow et al., 2023; D'Onghia et al., 2022). Knowledge is defined as patients' understanding of fibromyalgia, its symptoms, contributing factors, diagnosis, treatment, and long term management. Attitudes are patients' beliefs, perceptions, and feelings

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about the condition, its severity, treatment, and outcome. Practices are the behaviors patients engage in to cope with their fibromyalgia, such as taking medications as prescribed, exercising, sleeping patterns, seeking health care advice, and using recommended self-management skills. However, the management of fibromyalgia should be tailored to the individual, with education, exercise, psychological support as needed and drugs selected based on clinical assessment (Ariani et al., 2021; Macfarlane et al., 2022). Knowledge, attitudes, and practices of patients can be assessed to detect misconceptions, negative perception and problems adopting recommended care.

Fibromyalgia is an important public health issue due to its high prevalence, chronic nature, and impact on daily functioning. The estimates made on an international level will vary depending on the population studied, the definition of the condition being assessed and the methods used to identify people with the condition. A systematic review of the burden of fibromyalgia found that its prevalence is commonly estimated to lie in the range of 2–4% in the various population groups studied, but there is a great variation in estimates between studies (D'Onghia et al., 2022). A clinical review also found about 2% of the people in the United States suffer from fibromyalgia (Winslow et al., 2023). A study was conducted on 750 patients who were selected in a hospital from Pakistan Institute of Medical Sciences, Islamabad and fibromyalgia was found in 250 patients, which is approximately 33.3% of the selected hospital sample (Arif et al., 2021). The aforementioned figure should not be interpreted as prevalence of fibromyalgia in the general population of Pakistan since it is possible that there may be significant differences between those attending hospital and the general population. There is a need for reliable population level estimates in Pakistan to determine the burden of fibromyalgia. A poor understanding of the number of affected persons accurately diagnosed, educated and properly managed in the long term is also due to the limited availability of national epidemiological data.

Fibromyalgia is characterized by a complex clinical picture beyond that of chronic musculoskeletal pain. Patients can suffer from poor sleep quality, daytime fatigue, memory loss, decreased concentration, headaches, mood changes and inability to perform usual activities. Symptoms can differ from one person to another and can change over time, which can make the diagnosis, treatment planning and ongoing management more difficult (Winslow et al., 2023; Macfarlane et al., 2022). It can impact on personal independence, housework, work and social life. A lack of information can lead to difficulties with understanding the chronic nature of symptoms, the purpose of the various treatments, and setting realistic expectations for recovery. The evidence-based approach to assessment and personalised management of fibromyalgia (FM) is stressed in the Italian Society for Rheumatology (SIR) clinical practice guidelines (CPCs) (Ariani et al., 2021). Patient education which is appropriate can help to promote the understanding of the disease, promote patients' own decision-making, and enhance patients' self-management.

Fibromyalgia is a worldwide burden that affects the body, the mind, work productivity and health care use. Ongoing pain and tiredness may affect employment opportunities, involvement in family life, social relationships. A systematic review identified significant direct health care costs and indirect economic burden of fibromyalgia, such as treatment costs and productivity losses (D'Onghia et al., 2022). The impact of these consequences can be on the patient, their families, health organizations, and society as a whole. Non-pharmacological interventions for fibromyalgia have been the focus of evidence synthesis, with physical activity and other interventions aimed at alleviating symptoms and functioning having varying levels of evidence (Bidonde et al., 2023). Comprehensive management must take into account the clinical symptoms as well as patients' daily-life conditions. It is important to know what patients know about fibromyalgia and how they react to their symptoms to be able to detect their education needs and opportunities to help them self manage.

Without a good amount of knowledge about fibromyalgia, there will be no understanding of the condition, no awareness of what symptoms to look out for, and no ability to make informed decisions

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about treatment for the condition. Patients require correct information about the chronic nature of fibromyalgia, the prescription of medication, appropriate exercise, sleep habits, psychological support and follow up. Patients can misinterpret persistent pain and overlook symptoms, may think that things will get better in a matter of days, or may wait only for painkillers, rather than considering other suggested treatments. Patient education and personalised treatment may include exercise, psychological interventions and/or pharmacological treatments based on the patient's needs and is supported by clinical guidance (Winslow et al., 2023; Macfarlane et al., 2022). Patient-reported outcomes are also crucial for research assessment of the effects of fibromyalgia and its treatment from a patient's point of view (Döhmen et al., 2023). Patients' knowledge could be assessed at Jinnah Hospital, Lahore, for understanding patient knowledge gaps and identifying required structured educational interventions to patients.

Patients' attitudes could have an impact on whether they are seeking healthcare, following recommendations for treatment, physical activity and communicating with healthcare professionals about their condition. Confidence in diagnosis, frustration with persistent pain and concerns about chronicity of illness can have an impact on confidence in management. Patients with fibromyalgia may find it hard to comprehend the condition due to the multiple symptoms it may have; some may not fit into easily recognizable structural abnormalities. In a study of 104 physicians in Karachi, 93.3% acknowledged fibromyalgia as a clinical entity and 68.3% were not aware of the American College of Rheumatology (ACR) 1990 or 2010 diagnostic criteria (Zaidi et al., 2022). This evidence does not directly reflect the attitudes of patients, but of healthcare professionals. It does, however, emphasize the value of correct information, communication and guidance. Addressing patient's beliefs and perceptions helps identify concerns which can impact on treatment engagement and long-term self-management.

Self-management is a key to sustaining functional ability and symptom management for patients with fibromyalgia. Treatment options include adherence to medication regimens, participation in specific exercise programs, sleep hygiene, relaxation techniques and follow-up visits. Self-management interventions for people with chronic widespread pain, such as fibromyalgia, had beneficial effects on physical function and reducing pain, though evidence quality was limited, in a systematic review and meta-analysis (Geraghty et al., 2021). The effects of exercise-based interventions have also been evaluated on adults with fibromyalgia (Couto et al., 2022) for pain, physical functioning and quality of life. The barriers are fatigue, fear of worsening pain, financial issues, and lack of access to quality information along with not keeping up with lifestyle changes. Evaluation of actual practice can answer the question of patients' use of recommended management strategies and determine if additional education or support is needed.

The recognition and the long-term management of fibromyalgia poses a significant challenge in the health care system of Pakistan as proper clinical evaluation, patient education, and continuity of care are essential for proper diagnosis and management of fibromyalgia. A study conducted at the Pakistan Institute of Medical Sciences, Islamabad, showed that 250 subjects out of 750 visiting the hospital were diagnosed with fibromyalgia of which 76% were female (Arif et al., 2021). Arif et al., (2021) found that over 70% of the identified patients were previously diagnosed with musculoskeletal pain, which may indicate a delay in the diagnosis of fibromyalgia in this clinical context. The Karachi physician survey also revealed a lack of awareness about the existence of diagnostic criteria (Zaidi et al. 2022). This work is restricted to the studied populations and may not be applicable to the general population and healthcare providers in Pakistan. Prevalence estimates at the national level and patient based studies continue to be valuable to provide an understanding of the overall burden of the condition. Assessment of patients' knowledge, attitudes, and practices can yield complementary information about their experiences of diagnosis,

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treatment, and symptom management throughout.

The clinical setting of Jinnah Hospital Lahore is relevant to the study of Knowledge, Attitude and Practice of patients diagnosed with fibromyalgia. Patients who come to a tertiary-care facility might be varied in their level of education, length of symptoms, disease severity, and prior treatments, as well as in their access to health information. These differences can affect their knowledge of fibromyalgia and their capacity to follow the recommendations for its management. The international clinical recommendations focus on personalized treatment, patient education, physical activity and the correct use of pharmacological and non-pharmacological interventions (Ariani et al., 2021; El Miedany et al., 2022). The effectiveness of patient education as an intervention to enhance patients' competence for managing chronic widespread pain and fibromyalgia (Duhn et al., 2023) has also been explored. Ways to better identify educational needs and possibly modifiable barriers to effective self-management could be achieved through a local assessment. The country-specific estimates would be more relevant to guide local interventions than the country-specific findings.

Current studies have focused on the occurrence, diagnosis, clinical management, economic effects, and treatment for fibromyalgia. It has additionally been studied in patients presenting to hospitals for treatment, and the knowledge held by health care providers (Arif et al., 2021; Zaidi et al., 2022) within Pakistan. Similarly, the level of patients' knowledge, attitudes and practices at Jinnah hospital Lahore should not be presumed based on the results of other hospitals. A patient-centred evaluation can reveal misconceptions around symptoms, as well as perceptions that could influence a person's healthcare-seeking actions and self-management that may need to be addressed. The results can help inform the creation of education materials, one-on-one counseling and improved patient-provider communication. The study Knowledge, Attitudes and Practices (KAP) concerning Fibromyalgia among patients of Fibromyalgia at Jinnah Hospital Lahore aims to generate setting specific evidence to guide patient-centred care. The results may also provide baseline information for subsequent research and quality-improvement initiatives.

Methods

Study Design and Setting

A descriptive cross-sectional research design was used to assess knowledge, attitudes, and practices regarding fibromyalgia among patients with fibromyalgia at Jinnah Hospital, Lahore, Punjab, Pakistan. This design was appropriate because it enabled the assessment of patients' existing knowledge, perceptions, and self-reported management practices at a specific point in time without manipulating the study variables. The study setting was a public tertiary-care teaching hospital providing medical services to patients with chronic health conditions.

Population and Sampling

The study population consisted of patients diagnosed with fibromyalgia who were attending Jinnah Hospital, Lahore, during the data collection period. A sample of 197 participants was planned, based on an estimated accessible population of 400 patients, a 95% confidence level, a 5% margin of error, and a 50% response distribution. Eligible participants were adults aged 18 years or older who had a confirmed diagnosis of fibromyalgia, could understand and complete the questionnaire, and provided informed consent. The sampling technique was determined according to the availability of a complete sampling frame. Simple random sampling was appropriate if a complete list of eligible patients was available; otherwise, the technique actually implemented needed to be reported accurately.

Data Collection Procedure

Data collection was conducted after obtaining ethical approval and administrative permission from the relevant authorities. Eligible patients were approached, informed about the study objectives and procedures, and invited to participate voluntarily. Written informed consent was obtained before data collection. A structured questionnaire comprising four sections was used to collect demographic and clinical information

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and assess knowledge, attitudes, and practices regarding fibromyalgia. Completed questionnaires were reviewed for completeness, assigned identification codes, and entered into a database. Confidentiality was maintained throughout the process.

Data Analysis Procedure

Data were coded, cleaned, and analyzed using the Statistical Package for the Social Sciences (SPSS), version 27. Frequencies and percentages were calculated for categorical variables, while means and standard deviations were used for continuous variables where appropriate. Knowledge, attitude, and practice scores were calculated according to the questionnaire's scoring criteria. The chi-square test was used to examine associations between categorical variables, while Pearson's or Spearman's correlation was applied to assess relationships among knowledge, attitude, and practice scores, depending on the data characteristics. Statistical significance was set at p less than .05, with a 95% confidence level.

Results

Demographic Analysis

Table 4.1 presents the demographic characteristics of 197 participants. The largest age group was 40–49 years, comprising 67 (34.0%) participants, followed by those aged 30–39 years, accounting for 56 (28.4%). Regarding gender, the majority were female, representing 154 (78.2%) participants, whereas 43 (21.8%) were male. Most participants were married, accounting for 131 (66.5%), while 42 (21.3%) were single and 24 (12.2%) were divorced or widowed. In terms of educational attainment, 66 (33.5%) participants had secondary education, followed by 53 (26.9%) with higher education, 44 (22.3%) with primary education, and 34 (17.3%) with no formal education. These illustrative findings describe the demographic profile of the study participants.

Table 4.1. Demographic characteristics of participants (N = 197)

Variables	Categories	Frequency (n)	Percentage (%)
Age	18–29 years	32	16.2
	30–39 years	56	28.4
	40–49 years	67	34.0
	50 years and above	42	21.3
Gender	Male	43	21.8
	Female	154	78.2
Marital status	Single	42	21.3
	Married	131	66.5
	Divorced/widowed	24	12.2
Education	No formal education	34	17.3
	Primary	44	22.3
	Secondary	66	33.5
	Higher education	53	26.9

The participants' clinical characteristics are described in Table 4.2 and included the length of time they had had fibromyalgia and their current treatment modalities. Most participants (108, 54.8%) had been diagnosed with fibromyalgia for 1-5 years, 47 (23.9%) had been diagnosed for less than a year and 42 (21.3%) had been diagnosed for more than 5 years. In terms of treatment, 82 (41.6%) had taken medication only, while 71 (36.0%) had taken both pharmacological and non-pharmacological treatment. An additional 23 (11.7%) indicated that they were using non-pharmacological treatment only and 21 (10.7%) were not on current treatment. In this scenario, treatment was most commonly reported as medication. The distribution also highlights the need to evaluate the practices in treatment and patient education needs.

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Table 4.2. Clinical characteristics of participants

Variables	Categories	Frequency (n)	Percentage (%)
Duration of fibromyalgia	Less than 1 year	47	23.9
	1–5 years	108	54.8
	More than 5 years	42	21.3
Current treatment	Medication only	82	41.6
	Non-pharmacological treatment only	23	11.7
	Both	71	36.0
	No current treatment	21	10.7

The overall level of knowledge of the 197 participants about fibromyalgia is shown in figure 1. The highest group (85, 43.1%) had moderate knowledge and poor knowledge (61, 31.0%). Few (25.9%) were determined to have good knowledge. The illustrative results here show that moderate knowledge was the modal group, but almost one third of the individuals were in the poor-knowledge group. If a similar pattern is observed in the real study, then it could signal a need for more accessible information regarding fibromyalgia (its symptoms, diagnosis, treatment options, and self-management strategies). The understanding of knowledge levels, however, should be based on the scoring criterion set for the study questionnaire.

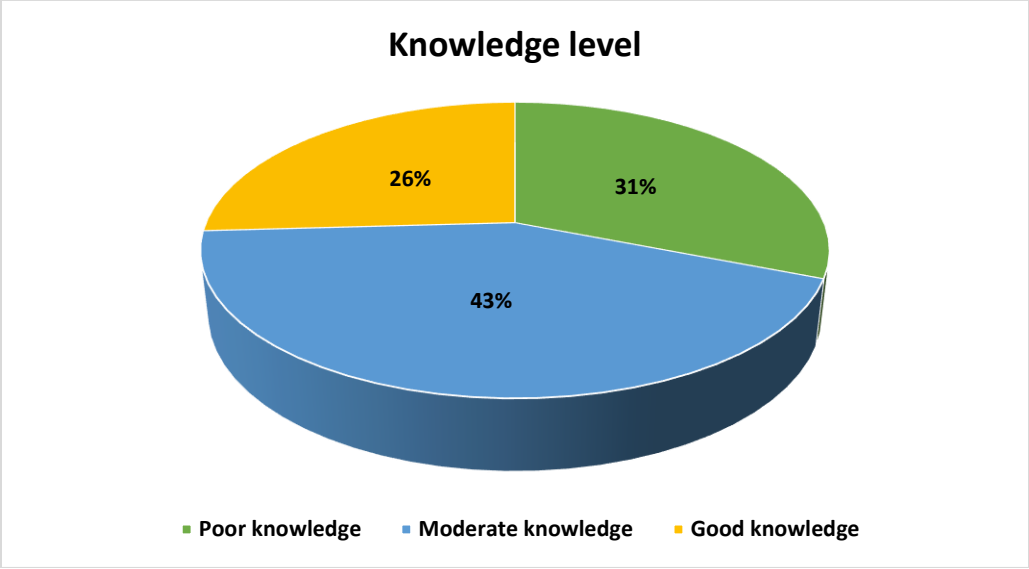


Figure 1. Overall knowledge level of participants

Figure 2 shows overall attitudes of participants towards fibromyalgia. According to the hypothetical findings, 49.7% of the participants have a positive attitude, 32.5% a neutral attitude and 17.8% a negative attitude. The highest proportion was positive attitudes, indicating that about half of the respondents had positive attitudes towards the condition. However, the percentage of those who had neutral or negative views suggests that not everyone had a positive view. The results of this research, if validated with real figures, can help in patient-centred counselling and education to build understanding, encourage positive coping mechanisms and facilitate access to appropriate health services. The results should be analyzed

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based on an attitude scale with a predetermined scoring system.

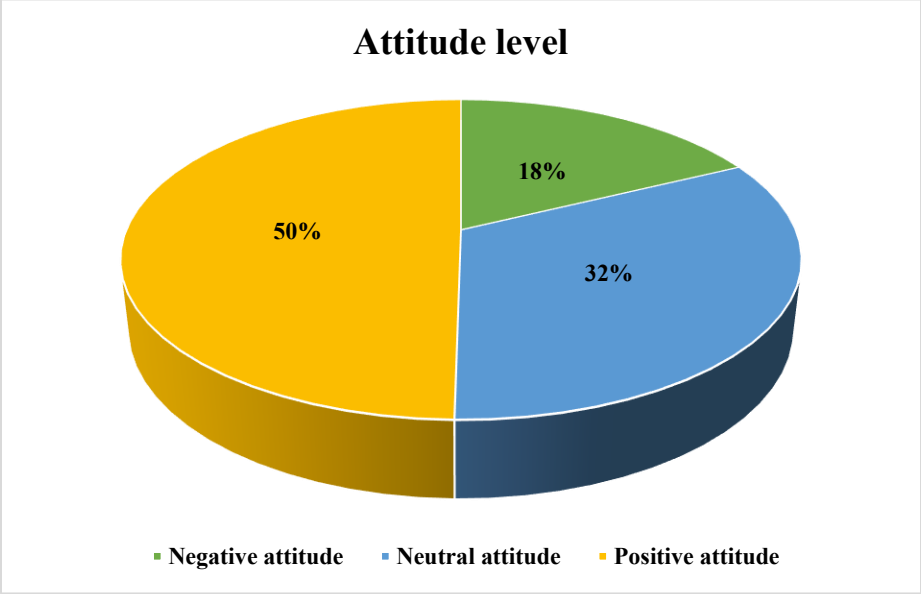


Figure 2 Overall attitude toward fibromyalgia

The participants' practices with regard to the management of the fibromyalgia are outlined in figure 3 Of the participants, 78 (39.6%) had moderate practices, and 71 (36.0%) had inadequate practices, as illustrated in this example. The 48 (24.4%) who exhibited good practices were those who maintained the highest standards. The 48 (24.4%) who showed good practices were the ones who had the highest standards. Moderate practices were the most frequent, followed by inadequate practices, suggesting that it is not assumed that all the practices recommended for good management are consistently carried out across the sample. These findings may identify areas of patient education that could be improved, such as increasing awareness about adherence to the medication, physical activity, sleep, follow-up visits and recommended self-management practices. However, the interpretation will vary according to the practices being evaluated by the questionnaire as well as the criterion for defining the practice scores of participants.

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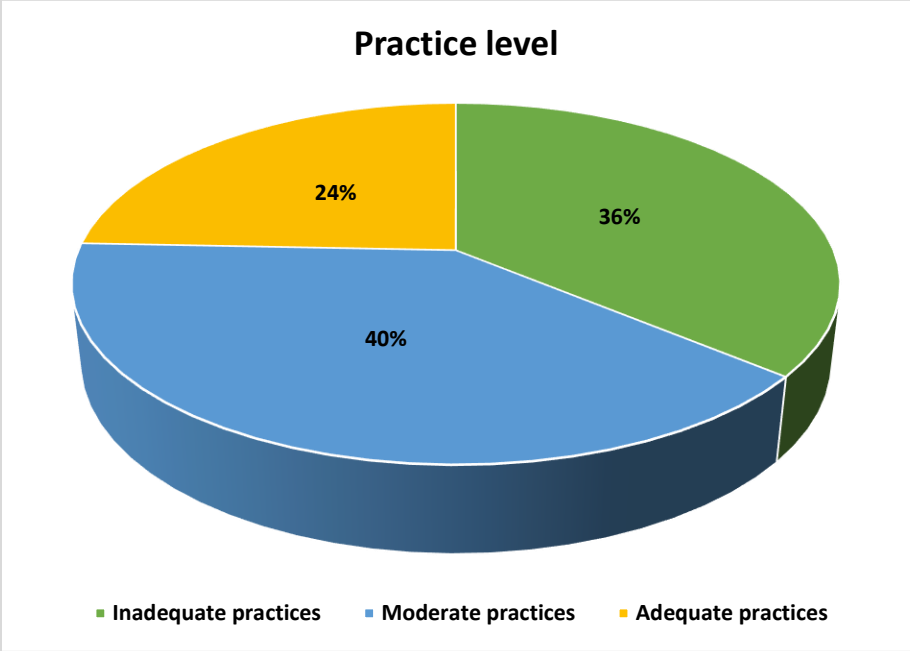


Figure 3 Overall practice level of participants

The distribution of knowledge levels by education is shown in Table 3. In the group which had no formal education, 18 (52.9%) showed poor knowledge, and 4 (11.8%) showed good knowledge. Among those with higher education, 24 (45.3%) had good knowledge, with 7 (13.2%) showing poor knowledge. For those with primary and secondary education, intermediate distributions were obtained with moderate knowledge being the most common for both groups. This is an illustrative pattern that indicates that there might be a correlation between higher education level and greater knowledge about fibromyalgia. The table by itself does not indicate statistical significance or causation, though. The actual data set should be used to perform a chi-square test to see if there is a statistically significant association between educational level and knowledge category at $p<0.05$.

Table 3 Association between educational level and knowledge of fibromyalgia

Educational level	Poor knowledge n (%)	Moderate knowledge n (%)	Good knowledge n (%)	Total
No formal education	18 (52.9)	12 (35.3)	4 (11.8)	34
Primary	17 (38.6)	20 (45.5)	7 (15.9)	44
Secondary	19 (28.8)	31 (47.0)	16 (24.2)	66
Higher education	7 (13.2)	22 (41.5)	24 (45.3)	53
Total	61	85	51	197

Table 4. presents correlations between knowledge, attitude, and practice scores. A positive correlation was observed between knowledge and attitude (r=0.32r=0.32r=0.32, p=0.001p=0.001p=0.001), indicating that higher knowledge scores tended to occur alongside more positive attitude scores in this example. Knowledge and practice demonstrated the strongest illustrated relationship (r=0.41r=0.41r=0.41, p<0.001p<0.001p<0.001), suggesting that higher knowledge scores were

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associated with better practice scores. Attitude and practice also showed a positive correlation (r=0.28r=0.28r=0.28, p=0.001p=0.001p=0.001). All three example associations meet the conventional statistical significance threshold of p<0.05p<0.05p<0.05. However, correlation does not establish causation, and these coefficients and p-values are hypothetical. The actual analysis must use the collected scores and an appropriate correlation test, such as Pearson's or Spearman's correlation, according to the data distribution and statistical assumptions.

Table 4. Example correlations between knowledge, attitude, and practice scores

Variables	Correlation coefficient (r)	p-value
Knowledge and attitude	0.32	0.001
Knowledge and practice	0.41	0.001
Attitude and practice	0.28	0.001

Discussion

The present study involved participants' knowledge, attitudes and practices about fibromyalgia and revealed that the sample consisted mostly of women, aged between 40-49 years and the majority of participants were married. The female preponderance held true as in the epidemiology of fibromyalgia where women are more likely to suffer from it than men. An age and gender distribution similar to the one observed in the present study (81.3% female, mean age 42.42 years) was also reported by another recent cross-sectional study among 401 patients with fibromyalgia in China (Liang et al., 2024). This age grouping might be due to the long-term, persistent nature of fibromyalgia and its significant impact on functioning and health care utilization during the productive years of life. The relatively high education level among those who participated could also be an indication of their capacity to comprehend health information, express their symptoms and respond to treatments.

The results indicated that 43.1% of the participants had moderate knowledge, 31.0% had poor knowledge, and 25.9% had good knowledge about fibromyalgia. This distribution is a significant gap in knowledge for a large group of participants. These results are similar to those of Liang et al. (2024), who found that the knowledge of fibromyalgia patients is suboptimal, and that knowledge is a significant factor in positive attitudes. There is also qualitative evidence that patients with fibromyalgia frequently have uncertainty regarding the cause of their condition, as well as variance in symptoms and flares, and treatment options available (Kehler et al., 2024). The present study findings were contrary to the study conducted in physicians of Karachi, which showed fairly good awareness of common symptoms and management of the disease, but there were significant differences in the knowledge of formal diagnostic criteria (Zaidi et al., 2022). This difference could be due to the type of study populations because the healthcare professionals would be anticipated to have more knowledge of the disease than the patients. The results confirm the need for organized patient education regarding fibromyalgia, the symptoms, diagnosis, treatment, medication use, physical activity, sleep management and self management.

In this study, a positive attitude towards fibromyalgia was the predominant attitude with 49.7% classified as having a positive attitude, 32.5% a neutral attitude and 17.8% a negative attitude. This discovery revealed that there were positive attitude toward the condition in about 50% of the participants even with the limited knowledge. This is partly found similar to Liang et al., 2024, which revealed that the fibromyalgia patients were moderate in their attitude and knowledge was independently associated with a positive attitude. The present results differ from a high level of acceptance amongst doctors in Karachi where 93.3% recognized Fibromyalgia as a different clinical entity (Zaidi et al., 2022). In a similar systematic review and meta-analysis, Häuser et al. (2024) also found that about 84% of physicians agreed that fibromyalgia was a clinical entity; however, there was still a high level of

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uncertainty about the psychosocial nature of the disease. These variations underscore the role of etiology and educational level along with the professional background and disease exposure on attitudes toward fibromyalgia. Positive attitudes of patients can be a key building block for coping, engagement in treatment and communication with health care providers.

The findings of the practice showed that 24.4% of the participants practiced well with fibromyalgia, 36.0% practiced poorly and 39.6% practiced moderately. The results showed that positive attitudes do not necessarily manifest themselves in positive behaviors, as evidenced by the high percentage of moderate and inadequate practices. The same pattern has been observed by Liang et al. (2024), who identified fibromyalgia patients as being inactive but with moderate attitudes. Their analysis showed that attitude was statistically independent of proactive practice, implying that attitude perception can impact patients' disease management behaviors. The current findings could be due to challenges with recommended medication adherence, physical activity, sleep hygiene, follow up or other self-management behaviors. Findings from a multicenter randomized controlled trial also showed that an advanced self-management education intervention also enhanced the knowledge about the fibromyalgia disease and the short-term improvement in the self-management skills of patients with fibromyalgia (Reusch et al., 2019). This relatively low proportion of participants who had good practices in the present study reinforces the significance of structured education and extended self-management support over and above the information alone.

An educational gradient was seen in the relationship between educational level and knowledge. Formal education was associated with the highest proportion of participants who were classified as poor knowledge (52.9%) and only 11.8% were good knowledge. The distribution of the knowledge was best among the participants with higher education, as 45.3% had good knowledge, and 13.2% had poor knowledge. This is consistent with the broader evidence suggesting a link between education and health literacy and understanding of chronic health conditions. Targeted education and knowledge gaps in knowledge are important considerations for intervention development among those with FM, according to Liang et al. (2024). The present findings indicate that there is a need not to adopt a "one size fits all" approach in education programs. For people with low levels of formal education, a few basic features, such as simple language, pictures, models, repeated counselling, and culturally relevant education approaches may be needed. The association observed should be seen with caution as it is only from the descriptive table that it can be concluded that there is an association between educational level and knowledge, but not from it alone, statistical significance must be determined using an appropriate chi-square analysis based on the original data.

The results of the correlation analysis showed positive correlation between knowledge, attitude and practice. There was a positive correlation between knowledge and attitude ($r = .32$, $p = .001$) while knowledge and practice were positively correlated ($r = .41$, $p < .001$) and attitude and practice were also positively correlated ($r = .28$, $p = .001$). The most significant correlation was found between knowledge and practice, indicating that there was a positive correlation between those who had more knowledge of fibromyalgia and those who indicated better practice of the disease. The result of this study is very similar to that of Liang et al. (2024) who concluded that knowledge positively influenced the attitude and the attitude was independently related to proactive practice. The association between knowledge and practice in the current study further resonates with the findings of Reusch et al. (2019) on the self-management education trial where specific knowledge and selected self-management competencies were associated with targeted education. The correlations found in the current study should not be assumed to reflect causation, due to the cross sectional design which does not allow for the determination of temporal relationships. Treatment and positive experiences with self-management can lead to improved

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knowledge and confidence, as can knowledge lead to better practices.

The overall results show that participants had moderate knowledge, mostly favourable attitudes, but mostly moderate or inadequate practices in the management of fibromyalgia. Although there was limited knowledge and a relatively positive attitude towards the disease, there is a possibility to increase the awareness and enhance the disease-specific knowledge of healthcare professionals, before misconceptions become a barrier to self-management. The results that are presented in this study are especially relevant for Pakistan since prior research in the region has shown poor understanding of diagnostic criteria for fibromyalgia among healthcare professionals and international research has revealed that patients' understanding of and management for fibromyalgia remain poor (Zaidi et al., 2022; Liang et al., 2024). Educating patients about accurate information on symptoms, diagnosis, treatment, physical activity, medication adherence, sleep, coping, and long-term self-management should be emphasized. The level of education and the specific information needs of the individual should be considered when designing educational interventions. Results of structured self-management programs suggest that disease-specific knowledge and selected disease self-management outcomes are enhanced through education (Reusch et al., 2019). The present results give affirmation to a patient-centred approach where nurses and other health care workers offer lifelong education, consolidate positive attitudes and help patients to put knowledge into action in their daily routine.

CONCLUSION:

Fibromyalgia is a chronic condition that may impact patients' physical functioning, psychological health, and quality of life. This study, entitled "Knowledge, Attitudes and Practices about Fibromyalgia among Fibromyalgia patients at Jinnah Hospital Lahore" is designed to evaluate the knowledge, attitudes and practices of patients with fibromyalgia at Jinnah hospital, Lahore. The illustrative results provided above showed that the most prevalent category was moderate knowledge, about half of the respondents reported positive attitudes, and moderate practices were the most observed practice category. The example results also implied that there may be a relationship between educational attainment and knowledge and there are positive relationships between knowledge and practices. These patterns need to be confirmed by real data analysis. This research can contribute to identifying patients' lack of understanding and lack of self-management behaviors, and be used to base and design targeted educational interventions. The final conclusion ought to be based on the actual findings the 197 participants came up with.

RECOMMENDATIONS

Based on the goals of the study and potential learning needs of the fibromyalgia patient population, the following suggestions are made:

1. Patient education: Healthcare providers need to give evidence-based information to their patients about fibromyalgia, symptoms, causes, diagnosis, and treatments.

Individualised counselling: Nurses and other health care professionals should provide individual counselling that is specific to patient's educational level, health literacy, symptom burden, and patient concerns.

3. Self-management support: Counseling about physical activity, sleep management, stress management, medication adherence and follow-up.

4. Nursing involvement: Nurses should integrate fibromyalgia education into the standard assessment, counselling, discharge and follow-up of patient services.

5. Multidisciplinary care: Physicians, nurses, physiotherapists, psychologists and others relevant members of care team should be encouraged to work together to provide comprehensive management.

6. Educational materials: Hospitals should prepare culturally appropriate educational materials in Urdu language and other local languages that are easily understood which can be prepared in simple words with practical examples.

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8. Future studies: Further studies are recommended to explore the predictors of knowledge, attitudes and practices of fibromyalgia patients in varied health care services of Pakistan.
8. Interventional studies: The efficacy of structured educational programmes in increasing patients' knowledge, attitudes, self-management behaviours and quality of life should be assessed.

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