

Physicians' Knowledge and Attitude on Assessment and Management of Chronic Pain at a Tertiary Care Hospital in Pakistan

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Author's Contribution

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ABSTRACT

Objective: To evaluate the knowledge and attitude of Physicians toward assessment and management of pain through an online questionnaire at a Tertiary Care Hospital in Pakistan.

Methodology: This study was conducted at Peoples Medical College Hospital (PMCH) Nawabshah Sindh Pakistan from January to the first week of February 2024 and the participants of study were Physicians working in medical as well as surgical disciplines. After taking permission from Institutional Ethical Review Committee, fifty-five (n=55) Physicians participated in the study by filling the online questionnaire that included a demographic section and a self-reported well validated questionnaire titled "Revised Pain Knowledge and Attitudes Questionnaire (RPKAQ)". Completely filled questionnaires were analyzed by using SPSS version 23.

Results: The mean RPKAQ scores obtained was $63.82 \% \pm 7.98$ SD. Only three (3) out of fifty-five (55) participants (5.45%) were able to achieve >75% marks that was the cut-off value to determine the adequacy of knowledge and attitude towards chronic pain. Maximum marks were obtained by Anesthesiologists 87.5% (n=02), followed by cardiologist 75% (n=01) and neurologists 67.8% (n=02). Overall understanding about basic knowledge and physiology of pain was found equal though inadequate i.e. 63%. Maximum mean score was achieved for the cognitive/ behavioral methods of pain relief i.e. 70.9% and minimum score was obtained for the 'assessment of pain' i.e. 49.8%.

Conclusion: This study revealed an inadequate level of pain knowledge in the domains of the assessment and pharmacological management of chronic pain among Physicians who participated to this study. It identified the need to plan a more aggressive continuous medical educational plan on pain to improve the current situation.

Key Words: Chronic Pain, Physicians, Knowledge, Attitudes, Pain assessment and management, questionnaire

Introduction

Definition of Pain is revised by the International Association for the Study of Pain (IASP) in 2020, as "An unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage," and expanded with addition of keynotes to elaborate the etymology.¹¹ Pain is regarded as fifth vital sign and this emphasizes the significance of its assessment as well as proper management.^{12,13}

Pain is the leading cause individuals seek physician's advice; however, inadequate pain management is often attributed to healthcare practitioners' negative attitudes and insufficient knowledge about pain.^{7-10,14}

The detrimental effects of inadequately managed pain are increasingly acknowledged as significant contributors to the development of secondary health conditions and a substantial decline in overall quality of life.^{15,16}

Currently there is no gold standard tool used to evaluate knowledge and attitudes of Physicians who are managing chronic pain. The revised Pain Knowledge and Attitude Questionnaire (RPKAQ) and a section from the Knowledge and Attitudes Survey regarding Pain (KASRP), which primarily focuses on the pharmacological management of pain, were utilized in the present study to collect data. Both the RPKAQ and KASRP have undergone cognitive testing and validation in various settings and cultures,

demonstrating reliability with Cronbach's alpha values of 0.65 and 0.80, respectively.^{8,17}

The KASRP tool was developed by Ferrell and McCaffery in 1987 to assess health care professionals' knowledge, and attitude related to pain. The KASRP is a 37-item questionnaire, containing 21 true or false questions, and 16 multiple-choice questions. Its goal is to evaluate the attitudes and knowledge of caregivers toward pain. The RPKAQ was specifically designed to assess knowledge, attitudes, and practices relevant to clinicians, encompassing the physiological basis of pain, psychological factors affecting pain perception, developmental changes, pain assessment and measurement, as well as cognitive and behavioral methods of pain management and pharmacological strategies for chronic pain.¹⁶⁻¹⁸ Both questionnaires were used globally to assess the knowledge & attitude of Nurses, physiotherapist, pharmacist, medical students, residents and doctors but there is scarcity of data about physicians.^{7-10,20-25}

In Pakistan, while some research has explored pain knowledge among nurses, there is a notable lack of studies focusing on physicians, particularly those involved in managing chronic pain in medical and surgical settings.²⁶ This study aims to address this gap by providing baseline data on physicians' knowledge and attitudes toward pain. Understanding their perspective is crucial, as physicians play a central role in pain assessment and treatment. The findings can help identify educational needs, guide training programs, and contribute to improved patient care and pain management practices in the healthcare system.

Methodology

This descriptive cross-sectional study, conducted at PMCH from the last week of January to the first week of February 2024 after obtained Ethical approval from ERC of PUMHSW through reference NO. PUMHSW/SBA/PVC/ERC/2023/312. Initially identified 89 participants, of which 10 refused to participate. Seventy-nine were contacted via email, but 15 did not attempt to fill out the questionnaire, and 9 were excluded due to incomplete responses. Ultimately, 55 participants were included in the statistical analysis.

Revised Pain Knowledge and Attitude Questionnaire (RPKAQ) was utilized to collect data, which

comprised three sections. The first section gathered demographic information, while the second assessed physicians' knowledge of pain, including its assessment and management.

The third section focused on attitudes towards chronic pain management. In the second section, 22 True/False questions and 34 Agree/Disagree questions were included. The third section contained 39 Agree/Disagree questions and 19 multiple-choice questions with a single answer. Each item was scored as 1 for a correct response and 0 for an incorrect response, with total scores ranging from 0 to 114. A score of 75% or above indicated acceptable knowledge, attitudes, and practices, while scores below 75% reflected inadequate competency in managing chronic pain.

Physicians were identified from the university records and invited to participate in the study via email. The email provided details about the study's purpose, an invitation to participate, and a link to the questionnaire on Google Forms. Informed consent was obtained when participants clicked on the link, provided demographic information, and answered the questions. Data was collected from 55 physicians who completed all 114 questions. Participants' personal information was kept confidential, though they were asked to provide their qualifications and department names. They were instructed not to consult medical texts while completing the questionnaire. Upon completion, participants received their scores and correct answers via email to aid in improving their pain knowledge. From google database Microsoft Excel spreadsheet was drawn and transferred to SPSS software version 23.0 for processing and statistical analysis.

Results

The physicians were categorized by age, gender, professional discipline, education level, duration in clinical practice, and years of managing chronic pain. The majority of participants were aged 41-50 years (60%), and most were male (74.5%). The highest scores on the RPKAQ were achieved by those with a Master's degree (average score of 58), and those with over 15 years of clinical practice had the highest scores (average of 54). Regarding chronic pain management experience, those with 4-7 years of experience scored the highest (average

of 55). The data also highlighted the variation in scores across different specialties and educational backgrounds, showing a correlation between higher education and longer clinical practice with better knowledge and attitudes towards chronic pain management as shown in table I.

Only three (3) out of fifty-five (55) participants were able to achieve >75% marks that constitute 5.45% of the whole sample participated in the study. Mean score obtained by participants was 63.82 % $\pm$ 7.98 SD that determines inadequate

knowledge and negative attitudes towards chronic pain.

Regarding the basic knowledge about Pain, the average score of participants remained 63.10% (n=35) that identifies an inadequate level of knowledge. While keeping in view the 75% marks required to define the adequate level of knowledge about Pain, a total of six (6) questions out of twenty-two (22) were answered correct (above 75%), the highest being 94.5% (n=52) to lowest 81.8% (n=45).

Table I: Demographic Characteristics of the Participants (n = 55) & their Association with RPKAQ Results				
Characteristics	Physicians n (%)	Maximum score	Minimum score	Mean highest score
Age (years)				
31- 40	9 (16.36%)	69	43	41- 50 years
41- 50	33 (60%)	112	49	
> 50	13 (23.6%)	84	54	
Gender				
Male	41 (74.5%)	84	43	Female
Female	14 (25.45%)	112	54	
Professional discipline				
Anaesthesiology	11 (20%)	112	43	Cardiology
Medicine	9 (16.3%)	75	54	
Surgery	4 (7.2%)	61	54	
Orthopaedics	5 (9.0%)	68	49	
Urology	1 (1.8%)	54	-	
Pulmonology	1 (1.8%)	58	-	
Neurology	2 (3.6%)	77	58	
Psychiatry	1 (1.8%)	58	-	
Ophthalmology	2 (3.6%)	67	58	
Otorhinology	1 (1.8%)	61	-	
Gynaecology/ obstetrics	7 (12.7%)	72	54	
Cardiology	2 (3.6%)	84	62	
Neurosurgery	4 (7.2%)	70	58	
Pediatrics	1 (1.8%)	69	-	
Paeds surgery	3 (5.4%)	62	56	
Public health	1 (1.8%)	57	-	
Highest Level of Education				
Bachelors Degree	3 (5.4%)	84	58	Master's degree
University/College diploma	14 (25.4%)	69	49	
Masters degree	34 (61.8%)	112	43	
Doctorates degree	4 (7.3%)	67	58	
Clinical Practice Duration (in years)				
1-5	2 (3.6%)	68	55	> 15 years
5-10	11 (20%)	70	43	
10-15	17 (30.9%)	70	49	
> 15	25 (43.6%)	112	54	
Duration of Managing Chronic Pain (in years)				
< 1	5 (9.0%)	84	54	4 - 7 years
1 -3	6 (10.9%)	69	43	
4 - 7	11 (20%)	112	55	
8-10	8 (14.5%)	77	56	
> 10	25 (45.45%)	84	49	

Concerning physiological basis of pain, most of the Physicians 62.92% (n=35) had inadequate level of knowledge. As a total of five (5) questions out of ten (10) were answered correct (above 75%), the highest being 98.2% (n=54) to lowest 76.4% (n=42).

While 58.8% (n= 32) of Physicians lacked adequate knowledge and attitudes towards psychological perceptive of Pain. A total of three (3) questions out of Fourteen (14) were answered correct, the highest being 100% (n=55) to lowest 75.9% (n=41). This is the only aspect of assessing knowledge & attitude where a question is answered correct by all the participants.

More than half of the participants 56.54% (n= 31) had inadequate knowledge and attitudes in pain perception seen due to developmental changes. Out of Ten (10) only one (01) question was answered correct i.e. 76.4% (n=42), that shows extremely inadequate knowledge of participants on this aspect. About current practice on assessment and measurement 49% (n=27) participants have inadequate knowledge. From Ten (10) questions only two (02) questions were answered correct with maximum to minimum score of 87% (n=47) and 80% (n=44) respectively. It clearly shows an extremely low knowledge on a very essential part in the management of chronic pain.

While regarding cognitive/ behavioral pain management the average knowledge was greater though still inadequate 70.9% (n=39). A total of six (6) questions out of Ten (10) were answered correct i.e. above 75%, the highest being 92.6% (n=50) to lowest 78.2% (n=43).

Only 52.7% (n=29) use best recommended practices in pharmacological management of patients with chronic pain that again identifies an extremely inadequate level of knowledge and negative attitude as out of Nineteen (19) only two (02) question was answered correct with maximum to minimum score of 96.4% (n=53) and 94.4% (n=51) respectively.

In the last part of the questionnaire nineteen (19) Multiple choice questions with single correct answer were asked on the practical management of chronic pain, the average response noted was 53.2% (n=30) with maximum 85.5% (n=47) to minimum score of 81.8% (n=45).

The mean calculated for all sections of Physicians' (n = 55) answered questions on RPKAQ is shown in Table II.

Table II: Mean scores of Physicians' Answered Questions on RPKAQ.

Sections of RPKAQ	No. of Items	Mean knowledge & attitude	
		n	%
Basic knowledge of pain	2	5	65%
Physiological basis of pain	10	35	65%
Psychological factors of pain perception	14	32	58 %
Developmental changes in pain perception	10	31	56 %
Assessment and measurement of pain	10	27	49%
Cognitive/behavioral methods of pain relief	10	39	70.9%
Pharmacological management of chronic pain	19	29	52.7 %
Practical management of chronic pain	19	30	54.54%

Discussion

The present study is the first ever investigation in Pakistan carried out to evaluate the knowledge & attitude of Physicians working in a tertiary care hospital and among the few studies conducted globally to evaluate the level of Physicians' knowledge and attitudes concerning chronic pain assessment & management.

Current investigation identified a significant gap in the understanding of pain and negative attitudes among the physician's working at our institute as the mean score obtained by participants was 63.82 % $\pm$ 7.98 SD. This result is compatible with the studies conducted worldwide, which is quite alarming and thought provoking. Mean score obtained by participants was 63.82 % $\pm$ 7.98 SD that determines inadequate knowledge and negative attitudes towards chronic pain. Analogous results were found with lower correct answer scores in the studies of Kheshti et al (43.1 %) Visentin et al. (61%) and Van Niekerk et al. (72%).²⁷⁻²⁹ A considerable difference in scores between genders was identified where female physicians (n=14) were found more knowledgeable about pain. This result was different from the studies of Dharmalingam & Al-Quliti et al in which male doctors performed better.^{22,30}

In accordance with our study a difference exists in the knowledge of physicians related to their duration of experience in the clinical practice and exposure to chronic pain patients. The maximum mean was from Physicians with experience of >15 years in clinical practice that indicates improved patient care with escalation of expertise. This is compatible with the findings of Dharmalingam et al & Thapa et al who found that better pain management by doctors is attributed to their experience and prior education.^{7, 22}

Inconsistency of score was observed among the multidisciplinary physician of different departments. These results are presented in Figure 2. Highest marks were obtained by cardiologist 73% followed by Anesthesiologists 69.45%, this is consistent with the findings of T.T. Negash et al. where Anesthetists' showed higher proportion of knowledge but it was regarding postoperative pain management not chronic pain as in our study.³¹ In another study Anesthetist's knowledge and attitude level in pain management was found to be low.³²

In current study it was found that majority of the correct answer were scored by the physicians with higher level of qualification and increased duration of clinical experience that indicates that exposure to related education and environment enhances the overall knowledge and attitude. This emphasizes on the development of pain curriculum and educational programs with clinical application for chronic pain assessment and management. This is found in alignment with the findings of Rop S et al, Bouri et al & Mashanda et al who identified the same correlation in their participants.^{7,9,33}

Our study reaffirms the findings of other studies, which identified physiological aspects and cognitive/behavioral methods of pain relief as the maximum knowledgeable areas while the part on

assessment of pain was found to be minimally understood and scored.^{8,30,34}

Present study also identified that physicians have negative attitudes on the use of opioid for chronic pain due to inadequate knowledge and fear of addiction or abuse, as only five (05) questions about prescribing opioids were answered correct by less than 35% of the participants. This study identifies a very important but detrimental barrier against adequate control of chronic pain. The same is exhibited by various studies carried out globally where there is significant multifactorial decline in prescribing opioids to alleviate the patient suffering from chronic pain.^{7,20,22,27,35-38}

Conclusion

This study highlights a concerning gap in the knowledge and negative attitudes towards chronic pain assessment & management among Physicians working at PMCH. With low levels of understanding and negative perceptions, it's crucial to implement focused educational programs such as seminars, webinars, and workshops are strongly recommended for physicians across various disciplines along with development of institutional guidelines for pain assessment and management. This initiative aims to bridge existing gaps and ultimately achieve better patient outcomes.

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LIMITATIONS: This study has notable limitations and strengths. As a single-center investigation, its findings may have limited generalizability. Additionally, both internal and external validity can be compromised by using a self-administered questionnaire due to potential bias. Furthermore, these questionnaires do not permit an examination of physicians' actual practices in pain assessment and management. Conversely, the high response rate from participants who completed the entire questionnaire enhances the representativeness of the sample within the broader population

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