

ORIGINAL RESEARCH

Knowledge, Attitude and practices towards pain management among medical students in central India.

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Abstract

Background: Pain impacts billions of people daily and relief from pain is vitally important because if left untreated, it produces detrimental effects on quality of life, such as hopelessness, and social disturbance. Healthcare providers like physicians, physiotherapists, and nursing staff have played a pivotal role in pain management. limited knowledge and attitude toward pain reported as major obstacles for effective management of pain. **Aim /Objective:** This study aimed to assess knowledge, attitude, and practice toward pain management in undergraduate medical students and residents of various disciplines. **Methods:** A cross-sectional study was performed from 1-28 February of 2025, by questionnaire to assess the knowledge and attitudes regarding pain management. Which was distributed among 200 undergraduate medical students and residents of govt healthcare educational institute of Chhattisgarh, of which 120 medical students participated in this study. Data was analyzed by descriptive statistics. **Result:** One hundred twenty were responded and the response rate was 60 %. All of them have had pain education in previous years. The average age of responders was between 22-28 years. Of which 80 (66.7%) of them are undergraduates and 40 (33.3%) were residents in various disciplines. 46.7% were male and 53.3% were females. Around 90 % have good theoretical knowledge about the pathophysiology of pain. **Conclusion:** All of them have good theoretical knowledge about pain but when it comes to attitude and practices, they need clinical exposure as well as the seriousness of pain and how this impacts the quality of life of patients. So, it is recommended to consider pain management in continuous education with empathy in the clinical practices curriculum.

Keywords: pain management, Knowledge and attitude, medical undergraduates.

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Introduction

Globally, pain impacts billions of people daily.[1] It has been estimated that 1 in 5 adults suffer from pain and that another 1 in 10 adults are diagnosed with chronic pain each year [2] "Pain is an unpleasant, sensory and emotional experience associated with actual or potential tissue damage ' as defined by international association for the study of pain and is expanded upon by the addition of six key Notes and the etymology of the word pain for further valuable context.[3] Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social

factors. Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons. Through their life experiences, individuals learn the concept of pain. A person's report of an experience as pain should be respected. Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being. Verbal description is only one of several behaviors to express pain; the inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain. [3]

Pain can be acute or chronic or intermittent, if acute pain is left untreated for some reason or ignored can become chronic. Pain is the most common reason for seeking healthcare services but is often left untreated. [3] The most common cause of pain is cancer. surgical process, tissue damage osteoarthritis, migraine, gout, neuropathic. Pain has multiple, serious sequelae but is not limited to depression, inability to work, disrupted social relationships suicidal thoughts, etc. Of those living with chronic pain, the median time of exposure is 7 years. [4] Pain management is critical in the everyday job of healthcare professionals who encounter patients who are in pain regularly [5]. To provide efficient pain treatment, these healthcare professionals must acquire extensive training and have a solid knowledge of pain, and their causes. several studies have documented the inadequacy of knowledge and attitude towards pain management in medical health care students [6].

Pain assessment is now recorded as the fifth vital sign of the patient and is required to be taught to medical and nursing students at the beginning of their clinical education as a standalone topic and not as part of another topic [7]. The assessing and managing of pain is complex as previously discussed it not only the symptoms of other underlying diseases it also affects the quality of life, working capabilities of individuals, and I have some patients who experienced migraine headaches, gout, neuropathic pain, though we have enough knowledge and treatment options, sometimes we feel helpless to fulfill immediate relief .although there were several studies on knowledge, attitude towards pain management of nursing students [8].

But have limited studies on undergraduate medical students and residents. patients expected their physician to understand their pain, and how it affects their living standard. thus, this study explored the knowledge, attitude, and practices towards pain management as it was a referral health care center.

Materials and methods

A cross-sectional study was conducted by using an electronic questionnaire distributed to undergraduate

medical and physiotherapy students and residents of government hospitals, and institutes in Chhattisgarh of Central India, from 1 to 28 February 2025. The survey, which was done by using Google Forms, comprised 20 questions targeting demographics, knowledge, attitudes, and practices towards pain management. Ethical approval and informed consent were taken before the survey. This study assesses knowledge and attitude towards pain and how they implement their knowledge in clinical practices and compares the knowledge and practice among undergraduates and resident students. Data was analyzed by using descriptive statistics.

Inclusion and exclusion criteria: Those who are willing to give informed consent were included in this study. The criteria include second-year of MBBS students, physiotherapy students and residents of various disciplines. Who completed the questionnaire, while incomplete responses were excluded. The questionnaire included both closed and open-ended questions to capture quantitative and qualitative data. Descriptive statistics were utilized to analyze the data from 120 respondents, including age, gender, knowledge, attitude and practices towards pain management because from the second year onwards clinical posting was started and students directly exposed to patients and resident students already completed their MBBS and posted in hospitals.

Results

One hundred twenty students responded to a questionnaire and the response rate was 60 %. All of them have had pain education in previous years. The average age of responders was between 24 -25 years. However, if the median age group of undergraduates is 20.5 ± 1.5 and the resident's median age is 25.5 ± 3.5 . Of which 80 (66.7%) of them are undergraduates and 40 (33.3%) were residents in various disciplines. 46.7% were male and 53.3% were females. Overall, 88.6% have good theoretical knowledge about the pathophysiology of pain, and attitudes and practices were 54.5 %.

Table 1; demographic characteristics (sample distribution)

Total (120)	Number of students	Percentage distribution
Undergraduate MBBS /physiotherapy student	80	66.6%
Resident's doctors	40	33.3%

The sample was distributed 2;1 in both groups. We compare between knowledge and attitude of UG (total) students and residents.

Table 2; Age differences in the mean age of undergraduates and resident doctors were observed. which affects in their knowledge and practices in pain management

Total	Mean age
Undergraduates	20.5 ± 1.5
Residents	25.5 ± 3.5

Table :3 Gender (n=120) balanced representation is seen with more female responders.

Gender	frequency	Percentage
Male	56	46.7%
female	64	53.3%

Knowledge of pain: More than 88.6 % knew about pain and previously educated .

Questions	N=80 undergraduates correct response	N = 40 Pg residents correct response	Average Correct response Of both PG and UG
Definition of pain (T OR F)	73(91.25)	38(95%)	55.5(92.5%)
TYPE OF PAIN and intensity of pain	66(82.5%)	39(97.5%)	52.5(90%)
Causes of pain.	68(85%)	38(95%)	53(90%)
What are pharmacological approaches and substances to relieve pain.	65(81.2%)	32(80%)	64.2 (80. ^5)
Which factors aggravate pain	73(91,2%)	37(92.5%)	55(91.6%)
Are there any non- pharmacological approaches to relieve pain	63(79%)	32(80%)	47.5(79.5%)
Have previously educated about pain management	74(92.5%)	40(100%)	57 (96.2)%

Most of the questionnaire was prepared with help of International Association for the study of Pain. (IASP .org)

Attitude-related beliefs on: pain Is not considered as vital sign only 24.5% agree with this, and their belief that patients can sleep inspite of severe pain shows a lack of empathy towards pain.

Characteristics	(Response by ug n=80) agree	(residents n=40) agree	Description
Pain is considered one of the vital sings	35 (43.7%)	37(92.5%)	Resident shows a positive attitude toward pain rather than UGs
Patient may sleep in spite of severe pain	33 (41.5%)	5(12.5%)	UGs have negative attitude towards pain
Frequent requests of analgesia by the patient means he is already addicted	42(52%)	6(15%)	UGs have a negative attitude toward frequent use of analgesia in pain
Can a specific procedure (nerve block) reduce pain	17(21.2%)	15(37.5%)	Resident shows a slightly more positive attitude toward this intervention

Multiple choice of questions to assess and management of pain: residents have slightly more knowledge to the assessment and management of pain as they already work in hospitals .and have practical knowledge.

Characteristics	UGs show correct response (n=80)	Residents show correct response (n=40)	Average (n=120)
How will you assess the pain	60 (75%)	27(67,5%)	43.5(71.2%)
How do behavioral medicines and physical therapy prove to be effective for treating pain?	58(72.5%)	36 (90%)	47(81.25%)
Best assessment tool for assessment of pain.	43(53.5%)	24(60%)	33.5(56.7%)
What is the PQRST pain assessment tool	30 ((37.5%)	29(72,5%)	29.5(55%)
What is goal of pain management	64(80%)	30(75%)	47((77.5%)
which of the following is not the treatment of trigeminal neuralgia?	15(18.5%)	12(30%)	13.5((24.25%)
drug of choice rheumatoid arthritis.	40(50%)	24(60%)	32(55%)
Mean	50%	65%	60%

Discussion

Healthcare professionals' inaccurate beliefs regarding the assessment and management of children's pain are noted as barriers to effective pain management (American Academy of Pediatrics [AAP org] [9]). So the purpose of this study was to assess the knowledge, attitude and approaches applied by healthcare professionals like undergraduates, residents doctors of various disciplines, and physiotherapists in pain management of tertiary care health institute of Chhattisgarh in central India. It demonstrates a good theoretical knowledge mean score of 88.6 % but a negative attitude toward pain management among undergraduates 39.5 % seen as they have a lack of empathy or false beliefs towards pain. Previous surveys conducted in other health-care centers reported similar issues that resulted in suboptimal pain management, such as poor pain assessment, insufficient knowledge and negative attitude together with inadequate guidance from pain specialists. [10,11]. A similar finding mean correct score for the entire scale was 34.1%. (SD = 9.9) there were significant differences found in the student's scores related to pain management training and frequency of using pain assessment tools ($p < 0.05$) not using pain assessment tools by nurses who are working in the clinical areas. (Simpson et al., 2002)[12]. To effectively manage ED patients' pain, an understanding of the basic principles of a pain assessment, actions of pharmacologic agents, and the effectiveness of nonpharmacologic interventions by nurses are essential (Baharuddin et al., 2010)[13]. Knowledgeable and compassionate care regarding pain is a core responsibility of health professionals associated with better medical outcomes, improved quality of life, and

lower healthcare costs. E (Mezei and Murinson, 2011) [14]. A review of the literature on pain knowledge and attitudes of nursing students worldwide has revealed that, in general, their pain knowledge is inadequate, and attitudes regarding pain management are inappropriate. Interventions that aim to enhance their pain knowledge and improve attitudes towards pain management are effective.[14] omer et al study also support that study that healthcare provider nursing students have insufficient knowledge and attitudes regarding pain and its management and could benefit from additional education and training on that issue.[15,16] However, providing only theory and information is not enough to change behavior. Correct knowledge and informed attitudes do not automatically yield better pain management practices at bedside. A comprehensive plan for teaching content that incorporates strategies to change behavior can yield more positive results than episodic teaching, [17,18]

Conclusion

The research concludes that though clinical undergraduates and residents have good theoretical knowledge regarding pain management, their practice and knowledge in the clinical context are poor. This indicates insufficient clinical exposure and practical training in the context of pain management. The majority of the participants were able to identify pharmacological interventions and overall pain management methods but were unable to do so for case-specific examples, i.e., distinguishing between types of pain. The findings imply the necessity of additional, hands-on pain management education as part of clinical curricula. Continuous education in empathetic pain

management, and pharmacologic and non-pharmacologic modalities, is necessary to provide the competence of future health care professionals.

Limitation of study

Since the study was performed with second-year medical undergraduates and resident post-graduates at tertiary care institute in central India its result cannot be generalized by all healthcare professionals and test was not applied to test the significance of values. Between both groups, their have different levels of education and practical knowledge.

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