

KNOWLEDGE, ATTITUDE AND PRACTICES TOWARDS PAIN MANAGEMENT AMONG HEALTH CARE WORKERS, WORKING AT TERTIARY CARE HOSPITALS OF RAWALPINDI

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Abstract

**Background:** Pain is recognized globally as the “fifth vital sign,” , Pain management remains a cornerstone of holistic care, yet it is often inadequately addressed due to insufficient knowledge, negative attitudes, and inconsistent practices among health care workers (HCWs). In tertiary care hospitals, where patient acuity is high and expectations of care are rigorous, effective pain control is not only a clinical necessity but also an ethical imperative. Gaps in professional training, misconceptions about opioid use, and limited application of evidence-based tools contribute to suboptimal pain relief and reduced patient satisfaction.

**Objective:** The study aimed to evaluate the knowledge, attitude, and practices (KAP) of health care workers towards pain management in tertiary care hospitals of Rawalpindi, there by identifying existing gaps and providing evidence for targeted interventions.

**Methods:** A descriptive cross-sectional design was employed. A total of 300 licensed health care workers, including nurses, doctors, and paramedics, were recruited through convenience sampling. Data were collected using a pre-validated KAP questionnaire with established reliability (Cronbach’s alpha = 0.743). Ethical approval was obtained, and informed consent was secured from all participants. Data were analyzed using SPSS (v21).

**Results:** The findings revealed that only 20.2% of respondents had received formal training in pain management within the last five years. Overall, participants demonstrated moderate knowledge, with notable deficiencies in pharmacological management, particularly opioid administration. Attitudes reflected misconceptions regarding addiction and underestimation of patient-reported pain, while practices indicated inconsistent use of standardized pain assessment tools.

**Conclusion:** This study highlights significant knowledge gaps, attitudinal barriers, and inconsistent practices among HCWs in tertiary care hospitals

*hospitals. Addressing these shortcomings through structured education, continuous professional development, and implementation of evidence-based guidelines is critical to advancing effective pain management. Strengthening the competence of HCWs in this area will not only improve patient outcomes but also uphold the ethical and professional responsibility of ensuring pain relief as a basic human right.*

## INTRODUCTION

Pain is one of the most disabling and prevalent health conditions in the world, with chronic pain affecting between 20% and 30% of the global adult population (1). Overall, in recent times, it has been estimated that together, pain disorders account for years lived with disability (YLDs) and rank among the main causes of global disability and reduced quality of life(2).The pain burden has increased steadily over the past three decades due to population aging, urbanization, and lifestyle-related risk factors (3). Beyond its clinical importance, chronic pain is also related to higher levels of depression, anxiety, sleep disorders, and social isolation, which demonstrates its multidimensional nature (4). The economic effect is also catastrophic, with pain costing healthcare systems and societies billions of dollars annually in direct healthcare expenses and lost productivity(5). Discriminatory, the effect impacts women, older adults, and lower resource groups(6). Collectively, these findings underscore that not just a widespread human affliction, but a global public health crisis, too, pain must be addressed with integrative and equitable management strategies. In developed nations, pain continues to be a substantial economic and health burden despite advanced healthcare systems and increased access to treatment. Chronic pain in Europe has been estimated to affect one out of every five adults, with some countries having incidence rates up to 30(7). In Canada, the overall incidence of chronic pain among children and adolescents was 20.8%, with headache and musculoskeletal pain having the highest incidence (25.7%)(8).In Japan, the ageing population at a rapid rate has necessitated pain management as an urgent issue, with more emphasis on palliative care and rehabilitation (9). Data from Japan, the United Kingdom, and Canada show that pain is a top reason for chronic disability, diminished quality of life, and

premature withdrawal from the work force(10). The burden is intensified by demographic aging, since the incidence of chronic pain rises with age and puts pressure on health care and social support services(11). Access to effective pain management is now widely recognized globally ,particularly in developed countries, as a crucial part of health care for both individual well-being and public health(12). Developed countries are thus investing in multidisciplinary models of care, merging pharmacological, psychological, and rehabilitative approaches to enhance outcomes(13). Even with reliable healthcare infrastructures, these areas remain challenged with maintaining the balance of good pain relief and patient safety as well as sustainable resource use. Pain control continues to be a significant but neglected public health issue in developing nations. Countries like India, Bangladesh, and parts of Africa are experiencing an increasing burden of both acute and chronic pain, but poor healthcare infrastructures, resource shortages, and inadequate insurance coverage limit access to appropriate treatment(14). Shortages of appropriately trained pain specialists, poor access to necessary analgesics, and the heavy cultural dependence on traditional medication also contribute to widespread under-diagnosis and under-treatment(15). In Pakistan, the burden is particularly striking, with millions of patients suffering with untreated pain but only a few committed pain clinics available, mostly in urban centers of tertiary care hospitals(16). The majority of the rural population has near total lack of organized pain services, leading many to rely on self treatment or unregulated services(17). Obstacles from poor opioid availability due to controls, and lack of national pain registries further diminish system capacity(18). Although pain's high disability, lowered productivity, and great psychosocial burden are disregarded, health

priorities at the national level remain largely disease of infection, maternal-child health care, and nutrition, excluding the management of pain from sufficient funding and valuation. This imbalance between response and burden indicates the need for urgent national policymaking, training initiatives, enhanced access to opioids, and accessible services in order to make pain relief a core element of health care in Pakistan.

## METHODS AND MATERIALS

It was a cross-sectional study and was conducted at tertiary care hospital at Rawalpindi with a non-probability convenient sampling technique. Health care workers (HCWs) (licensed and qualified staff), including nurses, doctors, and paramedics doing clinical work of either gender, all age groups, and medical and nursing students, were included from critical care, emergency department, medical-surgical, oncology, pediatric, renal, surgical services, and critical care step-down units. Those who refused consent, non-licensed persons, HCWs who were not doing clinical work, and those who were not present during the data collection period due to any reason were excluded from the study.

**Data collection Tool:** The Knowledge, Attitudes, and Attitude Survey Regarding Pain (KAPS) (19) tool was used to assess the knowledge of healthcare professionals regarding pain management and as a pre- and post-test evaluation measure for educational programs.

The questionnaire used in this study, the KAPS, consisted of 43 questions regarding knowledge, attitudes, and practices regarding pain management. The KAPS consisted of 15 true and false questions and 10 multiple-choice questions. Two patient case studies were used to explore implied knowledge for making decisions regarding assessment data and interventions. The case vignettes present two patients, both 25 years old and both on their first day following abdominal surgery.

A score of 80% is the minimal acceptable score on the KAPS questionnaire. Test-retest reliability was established ( $r > 0.80$ ) by repeat testing in a continuing education class of staff nurses ( $N = 60$ ). Internal consistency reliability was established

( $\alpha r > .70$ ) with items reflecting both knowledge and attitude domains.

**Ethical Committee Approval:** The ethical approval of the study was obtained from the Armed Forces Postgraduate Medical Institute (AFPGMI). Individual informed consent will also be taken from the study participants during data collection.

**Statistical Analysis:** SPSS version 21 will be used for data analysis. Results will be used for evaluation. Descriptive statistics will be applied to calculate mean, standard deviation, frequency, and percentage. A one-sample t-test was conducted on the KASRP scores to evaluate whether their mean was significantly different from 80, the lowest acceptable score. A one-way ANOVA was conducted to determine the relationship of educational backgrounds with KAPS test scores. The Pearson correlation test was applied to check the correlation between age and experience duration with the final score.

## RESULTS

Out of 300 participants, the male-to-female ratio was 1:2.9, in which most participants 141 (47.0%) were in the 36-40 age group. Most of the professionals in this study held a bachelor's degree, 206 (68.7%); 74 (24.7%) graduated with a diploma, and 12 (4%) had a master's degree. The majority of the participants' current area of practice was the surgical department, 77 (25.6%). The mean  $\pm$  st.d of professional work experience was  $16.62 \pm 10.15$  years (min-max: 1-30). Formal training in pain management was not received by 217 (72.3%), and 83 (27.7%) HCWs received it. Table 1 and Table 2 illustrated the descriptive statistics for the KAPS test score.

Patient (A) and Patient (B) had vital signs that were within normal parameters, and both verbally reported their pain intensity as 8 out of 10. Patient (A) smiled and joked with his visitor when the nurse entered his room to assess his pain, whereas patient (B) was lying quietly and grimaced as he turned in his bed when the nurse went into his room. patients' case studies of knowledge for making decisions regarding assessment data and interventions was illustrated in Table 3.

Professionals from the critical care areas had the most passing scores (80% or greater); critical care was 15 (77%), emergency department 18 (73.75%), medical-surgical department 8 (67.8%), oncology 1 (72.5%), pediatrics 1 (52.5%), renal 1 (52.5%), surgical services 3 (60%), and telemetry step-down unit 2 (65%). Only marginal differences existed between educational backgrounds with scores: masters prepared had the highest cumulative score at 8 (75%), bachelor 18 (70.83%), associate degree 21 (68.57%), and diploma 3 (67.5%).

The mean ± st.d was 70.25 ± 13.01, significantly different from 80 (95% CI: 73.94 - 66.55, P=0.05). Nurses are not knowledgeable regarding pain and pain management. There were no statistically significant differences between KAPS test scores based on educational backgrounds (P = 0.73). There was no significant correlation found between the number of years of practice as a registered professional and knowledge and attitudes towards pain and pain management (r = -0.21; P = 0.13). However, there was a significant strong correlation between the age of the respondents and test scores (r = 0.74; P = 0.01).

**Table 1: Assessment of knowledge of HCWs**

Questions:	True n(%)	False n(%)
1.Vital signs are always reliable indicators of the intensity of a patient’s pain	229(76.3)	71(23.7)
2. Because their nervous system is underdeveloped, children under two years of age have decreased pain sensitivity and limited memory of painful experiences.	146(48.7)	154(51.3)
3. Patients who can be distracted from pain usually do not have severe pain.	140(46.7)	160(53.3)
4. Patients may sleep in spite of severe pain	81(27.0)	219(73.0)
5. Aspirin and other nonsteroidal anti-inflammatory agents are NOT effective analgesics for painful bone metastases	209(69.7)	91(30.0)
6. Respiratory depression rarely occurs in patients who have been receiving stable doses of opioids over a period of months	236(78.7)	64(21.3)
7. Combining analgesics that work by different mechanisms (e.g., combining an NSAID with an opioid) may result in better pain control with fewer side effects than using a single analgesic agent	253(84.3)	47(15.7)
8.. Opioids should not be used in patients with a history of substance abuse	248(82.7)	52(17.3)
9. Elderly patients cannot tolerate opioids for pain relief.	127(42.3)	173(57.7)
10. Patients should be encouraged to endure as much pain as possible before using an opioid.	234(78.0)	66(22.0)
11. Children less than 11 years old cannot reliably report pain so clinicians should rely solely on the parent’s assessment of the child’s pain intensity.	142(47.3)	158(52.7)
12. Patients’ spiritual beliefs may lead them to think pain and suffering are necessary.	153(51.0)	147(49.0)
13.Giving patients sterile water by injection (placebo) is a useful test to determine if the pain is real.	130(43.3)	170(56.7)
14.Benzodiazepines are not effective pain relievers and are rarely recommended as part of an analgesic regiment.	118(39.3)	182(60.7)
15.Pethadine 75 mg is equal to morphine 10 mg	106(35.3)	194(64.7)

<b>16. Administration of opioid for patients with cancer-related pain is</b>		
	<b>n</b>	<b>%</b>
Intra venous (IV)	1	63.7
Intra muscular (IM)	84	28.0
Subcutaneous	3	1.0
Oral	22	7.3
<b>17. The recommended route of administration of opioids in trauma or postoperative pain is</b>		
Intra venous	265	88.3
Intra muscular	21	7.0
Subcutaneous	4	1.3
Oral	10	3.3
<b>18. Category of drug for cancer patient</b>		
Codeine	6	2.0
Morphine	184	61.3
Meprediene	8	2.7
Tramadol	102	34.0
<b>19. Analgesic schedule for POP patient</b>		
Around the clock	151	50.3
On patient request	48	16.0
Nursing assessment	20	6.7
Fixed	81	27.0
<b>20. The reason of request increased doses of pain medication is</b>		
Increased pain	108	36.0
Anxiety	31	10.3
Staff attention	88	29.3
Addiction	73	24.3
<b>21. The most accurate judge of the intensity of the patient's pain is</b>		
Physician	44	14.7
Nurse	108	36.0
Patient	132	44.0
Pharmacist	14	4.7
Family	2	0.7
<b>22. Cultural consideration in caring for patient's pain</b>		
Diversity of population	35	11.7
Ethnicity	49	16.3
Cultural	177	59.0
Socioeconomic	39	13.0
<b>23. Discontinuation of an opioid, physical dependency</b>		
Sweating, yawning, diarrhea	80	26.7
Craving	57	19.0
Need for high dose	44	14.7
Sweating, yawning, diarrhea and craving	119	39.7

<b>24.Opioids induced respiratory depression</b>		
Accumulation of opioids	32	10.7
Sleep apnea	88	29.3
Getting higher dose already	77	25.7
Pulse oximetry	103	34.3
<b>25.Effect of relaxation technique on pain</b>		
Yes	179	59.7
No	121	40.3

**Table 2: Assessment of Attitude of HCWs**

Question	Agree n(%)	Strongly agree n(%)	Disagree n(%)	Strongly disagree n(%)
1.Pain Is What Patient Says	132(44.0)	144(48.0)	22(7.3)	2(0.7)
2.Acute Pain Lasts For 20 To 30 Days	21(7.0)	113(37.7)	92(30.7)	74(24.7)
3.Patients With Asthma/Asprin Sensitivity Best Nsaid Is Naproxen	217(72.3)	23(7.7)	41(13.7)	19(6.3)
4.Norcotics On Regular Basis Is Preferred As Prn Schedule	216(72.0)	22(7.3)	54(18.0)	8(2.7)
5.Naloxone Can Treat Respiratory Depression Caused By Opioids	182(60.7)	80(26.7)	38(12.7)	16(1.3)

**Table 3: Assessment of practice of HCWs**

	n	%
<b>Case study Patient A (Part A)</b>		
No Pain 0	179	59.7
Mild Pain 1	6	2
Mild Pain 2	38	12.7
Mild Pain 3	12	4
Moderate Pain 4	18	6
Moderate Pain 5	6	2
Moderate Pain 6	2	0.7
Severe Pain 7	1	0.3
Severe Pain 8	36	12
Worst Pain 9	1	0.3
Worst Pain 10	1	0.3
<b>Case study Patient A (Part B)</b>		
No morphine	225	75
1mg morphine	32	10.7
2mg morphine	39	13

3mg morphine	4	1.3
<b>Case study Patient B (Part A)</b>		
No Pain 0	10	3.3
Mild Pain 1	5	1.7
Mild Pain 2	31	10.3
Mild Pain 3	6	2
Moderate Pain 4	28	9.3
Moderate Pain 5	11	3.7
Moderate Pain 6	13	4.3
Severe Pain 7	14	4.7
Severe Pain 8	34	11.3
Worst Pain 9	145	48.3
Worst Pain 10	3	1
<b>Case study Patient B (Part B)</b>		
No morphine	81	27
1mg morphine	133	44.3
2mg morphine	70	23.3
3mg morphine	16	5.3

**DISCUSSION**

This study aimed to provide a basic framework of knowledge deficits and attitudes present among HCWs regarding pain management. The minimum 80% score set by the authors of the KAPS was not met 80% of the time. Deficits in knowledge were particularly evident in the areas of analgesic dosing, analgesic ceiling of opioids, and discerning addiction from tolerance and physical dependence. Test scores indicated that attitudes of nurses who participated in this study were marginally more favorable towards pain management. Professionals scored higher on the survey of 43 questions in relation to physiology and planning.

A large numbers of HCWs believed that vital signs are reliable indicators of pain level, in contrary, physiological parameters are neither sensitive nor specific for pain intensity and self-report remains the monetary standard (20). Likewise, only 44% of HCWs observed the patient as the most accurate evaluator of pain (21). Most participants evaluated that constant opioid doses often cause respiratory depression. According to

recent guidelines, history of substance use is not a direct contraindication, instead multidisciplinary support, monitoring, and necessitates careful assessment (22). Misconceptions regarding analgesic equivalence dosing and preferred routes of administration were also reported. Oral morphine remains the first-line strong opioid, than subcutaneous administration instead of IV for cancer-related pain (23). Encouragingly, most HCWs recognized the role of combining analgesics with relaxation techniques. Evidence supported the segregation of relaxation, behavioral and cognitive procedures as efficient plan of action to reduce pain cognition and modify coping (24).

Almost all HCWs supported the principle that “pain is what the patient says”. However, over 40% believed that acute pain lasts 20–30 days, whereas acute pain is generally expected to resolve within days to weeks, and persistent pain beyond this period is categorized as chronic (25). A large majority, incorrectly considered naproxen the best NSAID in patients with asthma or aspirin sensitivity, in spite of current result advising

carefulness with most NSAIDs in such cases (26). Most HCWs supported regular dosing of opioids over PRN administration, which line up multimodal pain management strategies on guideline-based (27). Moreover, HCWs correctly established naloxone as an efficient treatment for opioid-induced respiratory depression, which showed satisfactory awareness of opioid safety measures (28).

The practice assessment revealed that many HCWs underestimated pain severity in case scenarios, particularly in Patient A, where most rated pain as absent or mild despite indications of significant discomfort, reflecting a tendency toward under-treatment (29). In Patient B, although nearly half recognized worst pain, morphine prescribing patterns remained conservative, with only a minority selecting adequate dosing, consistent with global reports of opioid under-utilization in acute and cancer pain (30).

All these findings highlighted the need for innovative and effective pain management education for HCWs. It is imperative that all participants be better educated and be encouraged to be reflective, evidence-based practitioners. The proficient clinical reasoning skills can enhance the quality of practice provided through the precision of decision-making. Nurses should recognize knowledge deficits and seek to expand their knowledge base in order to provide safe and ethical care for the patients.

Further research to identify differences between specialty areas could help to determine if some professional realms would benefit from more education on pain management. Several limitations were identified that the small sample size of HCWs and cultural influences such as personal experience with pain and pain medication usage were not explored.

## CONCLUSION

The results of the data suggest that there was a significant deficit of the knowledge of HCWs in regard to pain management. The study elicited information about knowledge of pain and pain management, particularly in regard to pharmacology, which was tested in relation to

analgesic types, dosages, and side effects. The study finding supports concerns already identified in the literature that some nurses have a knowledge deficit of pharmacology and inadequate pain assessment skills. This study has uncovered the knowledge, attitudes and a practice gaps among HCWs. The HCWS need effective intervention programs to increase their knowledge levels and modify their attitudes. They require practical and updated intervention modules.

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