ORIGINAL ARTICLE

KNOWLEDGE, ATTITUDES, AND PRACTICES (KAP) OF STAFF NURSES REGARDING PEDIATRIC PAIN ASSESSMENT AND ITS INFLUENCE ON THEIR PERCEIVED SELF-EFFICACY IN PAIN MANAGEMENT

Ali Farhad[1]*, Aisha Iftikhar[2]

ABSTRACT

Background:
Effective pediatric pain management is a critical component of nursing care, yet under treatment remains a widespread challenge. Nurses' perceived self-efficacy is a key determinant of their clinical performance, but its relationship with their knowledge, attitudes, and practices (KAP) is not well understood, particularly in the Pakistani context.

Objective: This study aimed to assess the KAP of staff nurses in Karachi regarding pediatric pain assessment and management and to identify the significant predictors of their perceived self-efficacy.

Methods: A cross-sectional study was conducted with 165 nurses from pediatric wards of tertiary care hospitals using a validated, self-administered questionnaire. Data were analyzed using descriptive statistics and multiple linear regressions.

Results: The regression model revealed that both knowledge (â=0.457, p<0.001) and attitudes (â=0.460, p<0.001) were strong, nearly identical predictors of self-efficacy, while self-reported practices were a weaker but still significant predictor (â=0.086, p=0.044).

Conclusion: The findings demonstrate that a nurse's confidence is built on a dual foundation of knowledge and positive attitudes. This underscores the necessity for holistic training interventions that move beyond knowledge dissemination to actively cultivate the professional mindset and self-belief required for nurses to become effective advocates and managers of pediatric pain.

Keywords: Pediatric Pain Management; Nursing Self-Efficacy; Health Knowledge, Attitudes, Practice; Pakistan; Clinical Competence.

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[1]Assistant Professor, College of Pediatric Medicine, Allied Health Sciences, Ziauddin University, Karachi.
[2]Medical Officer, Skin and Medical-Cure Center, Karachi

**Corresponding Author:* Assistant Professor, College of Pediatric Medicine, Allied Health Sciences, Ziauddin University, Karachi.
Email: Ali.farhad@zu.edu.pk

INTRODUCTION

The effective management of pediatric pain remains a significant challenge and a moral imperative within modern healthcare, directly impacting a child's recovery, psychological well-being, and overall hospital experience. Despite its critical importance, undertreatment of pain in children is a persistent global issue, often stemming from complex barriers at the clinical level. Nurses, as the primary caregivers at the bedside, play an indispensable role in the continuous assessment and initiation of pain relief measures, making their competencies the linchpin of effective pediatric pain management [1,2]. Existing research from various contexts reveals concerning gaps; studies among nursing students and emergency department nurses highlight foundational knowledge deficits and negative attitudes that can impede adequate care [3,4]. Furthermore, investigations into specialized units, including intensive care and palliative care settings, consistently identify shortcomings in nurses' practices and significant perceived barriers that hinder optimal pain management for vulnerable populations [5,6].

While these studies effectively map the landscape of knowledge, attitudes, and practices (KAP) in isolation, a critical gap persists in understanding the dynamic interplay between these factors and their collective influence on a nurse's professional confidence. Research from China and Iran suggests a complex relationship where knowledge does not automatically translate into proficient practice, indicating that other psychological factors, such as self-efficacy, may be a crucial mediator [7,8]. This concept of perceived self-efficacy, a nurse's belief in their own capability to successfully assess and manage a child's pain, is a powerful determinant of clinical behavior, yet it remains underexplored in the Pakistani context. The domestic research landscape has primarily focused on knowledge assessments in areas like palliative care and dengue fever, leaving a substantial void regarding the specific competencies required for pediatric pain management [9, 10]. Therefore, merely documenting KAP levels is insufficient; there is a pressing need to investigate how these elements collectively shape the confidence of nurses, which ultimately drives their clinical actions and advocacy for their young patients.

This study is designed to address this gap by moving beyond a descriptive account to an analytical examination of the predictors of nursing confidence. The purpose of this research is to comprehensively assess the knowledge, attitudes, and practices of staff nurses in Karachi regarding pediatric pain assessment and management, and to determine the association of these factors with their perceived self-efficacy [11]. The findings will provide crucial, evidence-based insights for nursing educators and hospital administrators in Pakistan, guiding the development of targeted training interventions that not only disseminate knowledge but also strategically build the attitudes and practical confidence necessary to ensure that no child suffers needless pain.

METHODOLOGY

A cross-sectional study was conducted over a four-month period among staff nurses working in the pediatric wards of three major tertiary care hospitals in Karachi. A minimum sample size of 148 participants was calculated using the RaoSoft online calculator, with a 5% margin of error and a 95% confidence level, based on an estimated population of 500 nurses. The final sample included 165 nurses, recruited via convenience sampling.

Data were collected using a self-administered, structured questionnaire adapted from previously validated instruments used in similar KAP studies on pediatric and pain management [2,5]. The questionnaire was modified for contextual relevance and comprised four sections: demographic details, a 8-item knowledge scale (true/false), a 6-item attitude scale (5-point Likert), a 5-item practice scale (5-point frequency scale), and a 6-item perceived self-efficacy scale (5-point confidence scale). The instrument was piloted with 15 nurses, resulting in a high Cronbach's alpha of 0.92, indicating excellent internal consistency.

Data analysis was performed using the Statistical Package for the Social Sciences (SPSS) version

16.0. Descriptive statistics (frequencies and percentages) summarized participant characteristics. A multiple linear regression analysis was employed to identify whether knowledge, attitude, and practice scores were significant predictors of the nurses' perceived self-efficacy. For all statistical tests, a p-value of less than 0.05 was established as the threshold for statistical significance, defining the level for rejecting the null hypothesis.

RESULTS:

The participant profile reveals a predominantly female, early-career nursing workforce, with most possessing either a diploma or bachelor's degree. The sample is characterized by limited pediatric experience, as over 70% reported three years or less, and was nearly evenly split between public and private tertiary care hospitals.

Table 1: Demographic and Professional Profile of Participants

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	41	24.8%
	Female	124	75.2%
Age (Years)	21-25	58	35.2%
	26-30	67	40.6%
	31-35	29	17.6%
	>35	11	6.7%
Highest Nursing Qualification	Diploma in General Nursing	89	53.9%
	BSc Nursing	62	37.6%
	Post-RN BSc/MSc Nursing	14	8.5%
Clinical Experience in Pediatrics	< 1 year	47	28.5%
	1 - 3 years	72	43.6%
	4 - 6 years	34	20.6%
	> 6 years	12	7.3%
Current Hospital Type	Public Tertiary Care	78	47.3%
	Private Tertiary Care	87	52.7%

The results demonstrated excellent internal consistency for the research instrument, with a Cronbach's alpha of 0.951. This high reliability coefficient confirms the scales used in the questionnaire were exceptionally consistent and dependable for measuring the intended constructs.

Table 2: Inter-Item Reliability of the questionnaire

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.951	.951	25

The regression analysis reveals a compelling narrative about the drivers of nursing confidence in pediatric pain management. Both knowledge and attitudes emerged as powerfully significant and nearly equal predictors of self-efficacy, with standardized coefficients of 0.457 and 0.460, respectively. This indicates that a nurse's confidence is not solely built on what they know, but is equally fueled by their underlying beliefs and professional mindset. While self-reported practices were also a statistically significant predictor, their substantially lower coefficient suggests that actual clinical behavior, while important, is a less dominant contributor to a nurse's perceived competence compared to their foundational knowledge and attitudes.

Table 3: Predictors of Nurses' Perceived Self-Efficacy in Pediatric Pain Management: Multiple Linear Regression Analysis

Predictor Variable	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t-value	p-value
(Constant)	0.084	0.138		0.603	0.547
Knowledge Score	0.458	0.051	0.457	9.044	<0.001*
Attitude Score	0.442	0.048	0.460	9.196	<0.001*
Practice Composite	0.078	0.039	0.086	2.031	0.044*

Dependent Variable: Perceived Self-Efficacy in Pediatric Pain Management

*Note: * indicates statistical significance at $p < 0.05$.

DISCUSSION:

The findings of this study confirm the central hypothesis that knowledge, attitudes, and practices collectively predict the perceived self-efficacy of nurses in managing pediatric pain, with the model revealing a more nuanced hierarchy of influence than might be assumed. The powerful, nearly identical predictive strength of both knowledge and attitudes underscores a critical synergy; a nurse's confidence is not built on intellectual understanding alone but is equally dependent on a supportive professional mindset. This aligns with research from Iran which noted a disconnect between knowledge and practice, suggesting that attitudes are a pivotal intermediary variable [9]. However, it contrasts with studies that identified knowledge deficits as the primary barrier, highlighting that in our context, educational and psychological factors are deeply intertwined [2,4].

The most significant new insight from this work is the quantification of this dual foundation of

confidence. While previous studies in Pakistan have focused on isolated knowledge assessments [10,11], this analysis demonstrates that self-efficacy is a composite outcome, heavily reliant on both cognitive and affective domains. The clinical significance is profound; it implies that interventions aimed solely at updating knowledge, such as traditional lectures, will be insufficient. To truly empower nurses, training must be holistic, incorporating components that actively challenge negative beliefs and foster positive attitudes towards their role as pain management advocates. The weaker, though still significant, contribution of self-reported practices suggests that while clinical experience matters, the internal confidence to act may be a prerequisite for consistent practice [12,13].

This study is not without limitations. Its cross-sectional design precludes establishing causality, and the use of self-reported data may be influenced by social desirability bias. Furthermore, the model did not account for potent external barriers like staffing ratios or hierarchical workplace cultures, which could overshadow individual competencies. Future research should therefore employ longitudinal or mixed-methods designs to explore how self-efficacy evolves with experience and to investigate the systemic and institutional obstacles that may constrain a nurse's ability to apply their knowledge and positive attitudes in daily practice, ultimately ensuring that confidence can be fully translated into compassionate and effective clinical care.

CONCLUSION:

This study concludes that a nurse's confidence in managing pediatric pain is not born from knowledge or attitude alone, but from their powerful synergy. Our findings reveal that both a strong understanding of pain principles and a positive, proactive professional mindset are equally vital in building the self-assurance required for effective clinical action. This pivotal insight demands a fundamental shift in how we prepare and support our nursing workforce. To truly safeguard children from needless suffering, training must evolve beyond mere information transfer to become a holistic endeavor that simultaneously cultivates competence, shapes empowering attitudes, and builds the resilient confidence essential for advocacy at the bedside.

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AF: Concept & design, manuscript writing, responsible for integrity of research
AI: Editing of manuscript, data collection, review and final approval of manuscript

REFERENCES

1. Dana D, Tefera M. Knowledge, attitude, and practice of pain assessment and management in children among pediatric and pediatric surgical residents in Tikur Anbessa Specialized Hospital. Ethiopian J Healt Development. 2021;35(3) : 1-6. DOI: https://www.ajol. info/index. php/ ejhd/ article/view/222702
2. Selvi AM, Gauba A, Joshi P, Pandey C. Assessment of knowledge, attitude and practice towards neonatal pain management among nursing students in selected College of Nursing in New Delhi: A web based online KAP–questionnaire–based cross-sectional study. Int J Special Educat. 2022;37(3):15679-90. Weblink: https://www.researchgate.net/profile/Anu-Gauba/publication/361098705.pdf.
3. Lu H, Jin L. Knowledge, attitudes and practices of critical care unit personnel regarding pediatric palliative care: a cross-sectional study. BMC Palliative Care. 2024;23(1):125-130. DOI: .
4. Bozorgi F, Afrachali MG, Mudgal SK, Marznaki ZH, Khatir IG, Kalal N, et al. Knowledge, Attitudes, and Perceived Barriers of Nurses Regarding Pain Management in Emergency Department; a KAP Study. Archives of Academic Emergency Medicine. 2024;12(1):e67. DOI:10.22037/aaem.v12i1.2356.
5. Sweity EM, Salahat AM, Sada AA, Aswad A, Zabin LM, Zyoud SE. Knowledge, attitude, practice and perceived barriers of nurses working in intensive care unit on pain management of critically ill patients: a cross-sectional study.

BMC nursing. 2022;21(1):202-210. DOI: https://doi.org/10.1186/s12912-022-00990-3.
6. Song N, Liu W, Zhu R, Wang C, Wang CL, Chi W. A survey of knowledge, attitudes, and practices among paediatric intensive care unit nurses for preventing pressure injuries: An analysis of influencing factors. Int Wound J. 2024;21(2):e14710. DOI: https:// doi. org/ 10. 1111/iwj.14710.
7. Xie J, Zhang C, Li S, Dai R, Deng B, Xu Q, et al. Knowledge, attitudes, and practices toward cancer pain management amongst healthcare workers (physicians, pharmacists, and nurses): a cross-sectional study from first-tier cities in China. Supportive Care in Cancer. 2022;30(9):7261-7269. DOI: https://doi.org/10.1007/s00520-022-07139-7
8. Ihasan H, Ali D, Abdulghafoor A. Knowledge and Attitude of Pediatric Residents And Pediatric Nursing Staff in Regard to Nonatal Pain at Salahaldin General Hospital. The Medical J Tikrit University. 2024;30(2):112-119. DOI: http:// mjtu. tu. edu.iq/index.php/mjtu/article/view/83.
9. Pouralizadeh M, Ghoreishi MG, Niknami M, Kazemnejad-Leili E. The relationship between nurses' knowledge and perceived practice based on clinical practice guidelines of pediatrics' pain in Guilan University of Medical Sciences. Int J Africa Nursing Sci. 2021;14(1):100292. DOI: https://doi.org/10.1016/j.ijans.2021.100292. .
10. Bilal Z, Malik MJ, Virwani V, Khan A, Waqar MA. Knowledge and awareness of undergraduate medical students regarding palliative care in Pakistan: a cross-sectional study. BMC Palliative Care. 2024;23(1):262-268. DOI:1. https:// doi. org/10.1186/s12904-024-01587-0.
11. Ali N, Iqbal A, Rehman FU, Osama M, Khalid M, Jamal M. Knowledge, attitude, and practice (KAP) study on dengue fever among medical students in Dera Ismail Khan, Pakistan: knowledge, attitude, and practice study on dengue fever among medical students. Pak J Healt Sci. 2024:186-191. DOI:
12. Kumar N, Sulaiman SA, Hashmi FK. An evaluation of public understanding regarding COVID-19 in Sindh, Pakistan: A focus on knowledge, attitudes and practices. J Res in Pharmacy. 2021;25(6):881-889. DOI: https:// dergipark.org.tr/en/pub/jrespharm/issue/91717 /1691626.
13. Jairoun AA, Al-Hemyari SS, Shahwan M, Jairoun M, Kurdi A, Godman B. Assessing knowledge, attitude and practice of community pharmacists on the pain management and implications in UAE children. Pharmacy Practice. 2022;20(2):2664-2269. DOI: https:// doi. org/ 10.18549/PharmPract.2022.2.2664.

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