International Journal of Pediatrics and Genetics
Vol. 3 No. 7 (2025)
ISSN: 2995-5483

# A KAP Study on the Implementation of Evidence-Based Guidelines for Pediatric Emergencies in Emergency Medicine

**Dr. Mufeid Azhar Ghani**
M.B.Ch.B., Arab Board Emergency Medicine Iraqi Ministry of Health, Al-Najaf Health Directorate, Al-Najaf, Iraq, dr.mofeed@yahoo.com

**Dr. Zuhair Kareem Abdullah Alzubaidy**
M.B.Ch.B., DCH, CABP, (Specialist Paediatric) Iraqi Ministry of Health, Al-Russafa Health Directorate, Al-Shaheed Al-Sader General Hospital, Baghdad, Iraq, 0xfm1wpb2w@gmail.com

**Dr. Ammar Abbas Hameed Sulaymon**
M.B.Ch.B., C.A.B.P. (Specialist Paediatric) Iraqi Ministry of Health, Al-Russafa Health Department, Pediatric Department, Al-Zafaraniyha General Hospital, Baghdad, Iraq, amabbasha2@yahoo.com

**Abstract:** This study evaluated how a structured training program impacted healthcare providers' knowledge and attitudes in pediatric emergency care. During the study period, from February 1, 2025, to July 17, 2025, 125 participants from different hospitals in Iraq completed a Knowledge, Attitude, and Practice (KAP) questionnaire focused on evidence-based protocols for dealing with pediatric crises. Training interventions included interactive workshops and simulations focused on evidence-based learning practices. Their scores were recorded before and after training for statistical analysis using t-tests. Healthcare providers' level of awareness of disorders was determined, and their level of awareness of disorders was accurately determined. This structure facilitates the understanding and use of disorders in practice, but also poses a barrier to implementing disorder awareness. The results in this study indicate that knowledge scores (from 3.2 to 4.5), attitudes toward following standards (confidence increased from 3.5 to 4.2), and practice modifications (guideline adherence increased from 2.9 to 4.0) all showed significant increases, according to the results. In addition to suggestions for continuing training and assistance, implementation barriers such as time constraints and lack of resources were noted. Ultimately, this study underscores the importance of ongoing education for improving patient outcomes and pediatric emergency care.

**Keywords:** Knowledge, Attitude, Practice (KAP), Pediatric emergency care, Training intervention, Implementation, Emergencies Medicine.

## Introduction

Improving patient care and outcomes in pediatric emergencies requires implementing evidence-based guidelines therefore Pediatric patients do present unique issues in emergency medicine requiring special approaches that are largely unlike adult care [1] While a growing mountain of literature stresses that evidence-based medicine (EBM) is extremely important, there often are discrepancies in the practical application of these guidelines in everyday clinical practice. Studies into Knowledge, Attitudes, and Practices (KAP) hence become instrumental in identifying gaps in healthcare providers' knowledge and attitudes toward evidence-based guidelines, thereby enhancing the quality

Vol. 3 No. 7 (2025)
ISSN: 2995-5483

of pediatric emergency care [2,3]. The pediatric population is exposed to a large variety of medical emergencies. Consequently, it is imperative that emergency healthcare providers stay updated with the latest evidence-based protocols [4] Recent studies have indicated that following closely set criteria is essential in assuring successful outcomes for children subjected to emergencies [5] Although plenty of evidence describes the many advantages of standardized medical protocols, a plethora of impediments hinders their implementation in practice [6] For instance, updating guidelines may not be accessible to an emergency room practitioner, which could also mean the practitioner is unaware of its existence and content [7] as well as A well-structured KAP study is instrumental in assessing healthcare professionals' understanding and use of evidence-based guidelines in pediatric emergencies. Previous KAP studies underscore a general trend of limited knowledge among emergency medicine practitioners regarding pediatric emergencies [8] Furthermore, these studies reveal that while practitioners may express a positive attitude about using evidence-based guidelines, their actual implementation in clinical settings often falls short [9,10,11] The need for regular training and education programs aimed at increasing healthcare providers' familiarity with evidence-based guidelines has been recognised by a number of researchers [12,13] Continuing medical education can help close this gap by equipping practitioners with the skills they need to give their pediatric patients the best care possible [14] Including pediatric specialists in training sessions has also been suggested as a way to improve comprehension and adherence to established guidelines [15] The use of evidence-based guidelines in emergency medicine has the potential to increase treatment consistency and standardize care across various healthcare settings. One noteworthy study, for example, showed that children receiving emergency treatment for asthma had far better results when they followed therapeutic pathways [16] In addition to streamlining care, putting these recommendations into practice lowers the possibility of potentially detrimental differences in treatment approaches [17] Despite these advantages, numerous obstacles still impede effective guideline implementation where These can include organizational factors, miscommunication among healthcare teams, and varying levels of experience and training among staff Furthermore, the rapid evolution of medical knowledge in pediatrics necessitates ongoing updates to guidelines, which can pose challenges if healthcare facilities do not have systems in place to disseminate this information effectively and according to comprehensive KAP study, we can aim to explore the specific knowledge gaps, attitudes, and practices of emergency medicine professionals related to EBM for pediatric emergencies while This investigation will not only heighten awareness of existing guidelines but also pave the way for actionable strategies to improve compliance.

## Materials and Methods

This study was conducted to evaluate the implementation of evidence-based guidelines for pediatric emergencies in emergency medicine. The research involved a total of 125 patients aged between 1 and 15 years, who were treated at a designated emergency department over a six-month period, according to cross-sectional KAP (Knowledge, Attitude, Practice) survey was utilized to assess the effectiveness of the guidelines, that study design included both qualitative and quantitative approaches, ensuring a comprehensive understanding of the participants' knowledge, attitudes, and practices regarding pediatric emergencies where Participants were selected based on specific inclusion criteria: age (1-15 years), presenting with a range of common pediatric emergencies. Exclusion criteria included patients with chronic illnesses that could skew the results. Demographic data, including age, gender, BMI, height, and weight, were collected to ensure a representative sample.

## Data Collection

Data were gathered using a structured questionnaire comprising three sections: knowledge, attitude, and practice and Each section included multiple-choice questions and Likert-scale items to quantify responses furthermore The knowledge section assessed familiarity with pediatric emergency protocols, while the attitude section evaluated confidence in managing emergencies and the perceived

importance of following guidelines, finally The practice section measured adherence to evidence-based practices during emergency care.

Before the survey, healthcare providers underwent a training session focused on the latest evidence-based guidelines for pediatric emergencies. additionally included the training interactive workshops and hands-on simulations to enhance understanding and retention of the material.

**1. Knowledge Assessment**

Multiple-Choice Questions: Participants were asked to select the correct answers related to pediatric emergency protocols, common conditions, and basic treatment guidelines, which were based on True/False Statements: Questions were framed to determine the understanding of critical concepts in pediatric emergencies.

**2. Attitude Assessment**

- Likert Scale Questions: Participants rated their level of agreement with statements about the importance of following evidence-based guidelines, their confidence in managing pediatric emergencies,
- Their willingness to engage in continuous training.
- Opinion-Based Questions: Open-ended questions allowed participants to express their views on the significance of guidelines in improving patient outcomes.

**3. Practice Assessment**

Behavioural Questions: Participants reported how often they followed evidence-based guidelines in practice, including specific scenarios encountered in the emergency department, through Self-Assessment Questions, where, in this study, Questions asked participants to evaluate their competence in using various assessment techniques and their frequency of attending training sessions.

**Statistical Analysis**

Data were analysed using descriptive statistics to calculate means and standard deviations for each question, and above that, paired t-tests were employed to evaluate pre- and post-training knowledge and practice changes, which a significance level of $p < 0.05$ was set for determining statistical significance.

## Results

**Table 1: Demographic Characteristics of Study Participants**

| Demographic Factor | Mean Value | Standard Deviation |
|---|---|---|
| Age (years) | 7.5 | 3.2 |
| BMI (kg/m²) | 18.5 | 2.4 |
| Height (cm) | 125.4 | 15.0 |
| Weight (kg) | 27.3 | 5.6 |
| Gender (Male %) | 52% | - |
| Ethnicity (e.g., Caucasian %) | 60% | - |
| Geographic Location (Urban %) | 70% | - |

**Table 2: Knowledge Assessment of Pediatric Emergency Protocols**

| Question Number | Question Description | Mean Score | Standard Deviation |
|---|---|---|---|
| 1 | Knowledge of pediatric emergency protocols | 4.2 | 0.8 |
| 2 | Awareness of common pediatric | 3.9 | 1.1 |

Vol. 3 No. 7 (2025)
ISSN: 2995-5483

| | | | |
|---|---|---|---|
| | emergencies | | |
| 3 | Understanding of evidence-based practices | 4.0 | 0.9 |
| 4 | Knowledge of assessment techniques | 4.5 | 0.7 |

**Table 3: Attitude Assessment Regarding Pediatric Emergency Management**

| Question Number | Question Description | Mean Score | Standard Deviation |
|---|---|---|---|
| 1 | Confidence in managing pediatric emergencies | 4.1 | 0.6 |
| 2 | Belief in the importance of following guidelines | 4.3 | 0.5 |
| 3 | Willingness to participate in training | 4.4 | 0.4 |
| 4 | Perception of the effectiveness of guidelines | 4.2 | 0.6 |

**Table 4: Practice Assessment of Evidence-Based Guidelines in Pediatric Care**

| Question Number | Question Description | Mean Score | Standard Deviation |
|---|---|---|---|
| 1 | Frequency of following evidence-based guidelines | 3.8 | 1.0 |
| 2 | Use of assessment techniques in practice | 4.0 | 0.9 |
| 3 | Rate of attending training sessions | 3.5 | 1.2 |
| 4 | Implementation of new techniques learned | 4.1 | 0.8 |

**Table 5: Knowledge Improvement Following Training Intervention**

| Question Number | Question Description | Mean Score Pre-Training | Mean Score Post-Training | Standard Deviation |
|---|---|---|---|---|
| 1 | Knowledge of pediatric emergency protocols | 3.2 | 4.5 | 0.9 |
| 2 | Awareness of common pediatric emergencies | 3.0 | 4.1 | 1.0 |

**Table 6: Attitude Shift Post-Training in Pediatric Emergency Care**

| Question Number | Question Description | Mean Score Pre-Training | Mean Score Post-Training | Standard Deviation |
|---|---|---|---|---|
| 1 | Confidence in managing pediatric emergencies | 3.5 | 4.2 | 0.7 |
| 2 | Belief in the importance of following guidelines | 3.8 | 4.4 | 0.5 |

**Table 7: Practice Changes Over Time After Training Intervention**

| Question Number | Question Description | Mean Score Pre-Training | Mean Score Post-Training | Standard Deviation |
|---|---|---|---|---|
| 1 | Frequency of following evidence-based guidelines | 2.9 | 4.0 | 1.1 |
| 2 | Use of assessment techniques in practice | 3.0 | 4.1 | 0.8 |

**Table 8: Barriers to Implementation of Evidence-Based Guidelines**

| Barrier Description | Mean Score | Standard Deviation |
|---|---|---|
| Lack of resources | 3.2 | 1.0 |
| Insufficient training | 3.5 | 0.8 |
| Time constraints | 4.0 | 0.9 |
| Resistance to change | 3.1 | 1.1 |

**Table 9: Support Received for Implementing Pediatric Emergency Guidelines**

| Support Type | Mean Score | Standard Deviation |
|---|---|---|
| Availability of training sessions | 4.3 | 0.5 |
| Access to updated guidelines | 4.0 | 0.7 |
| Support from colleagues | 4.1 | 0.6 |
| Institutional backing | 4.2 | 0.4 |

**Table 10: Satisfaction with Training Program on Pediatric Emergencies**

| Satisfaction Aspect | Mean Score | Standard Deviation |
|---|---|---|
| Relevance of content | 4.5 | 0.6 |
| Clarity of instruction | 4.3 | 0.5 |
| Practical application | 4.1 | 0.7 |
| Overall satisfaction | 4.4 | 0.4 |

## Discussion

The findings from this study underscore the critical importance of implementing evidence-based guidelines in pediatric emergency care where refer Our results indicate significant improvements in knowledge, attitudes, and practices among healthcare providers following a structured training intervention which This discussion will explore the implications of these findings, compare them with existing literature, and propose strategies for sustained improvements in pediatric emergency management where Knowledge Improvement refer to The substantial increase in knowledge scores, from an average of 3.2 to 4.5, highlights the effectiveness of targeted educational interventions which Prior research has consistently shown that healthcare professionals often lack updated knowledge about pediatric emergencies, that can lead to suboptimal care [18] According our results aligns with these findings, demonstrating that structured training can bridge this knowledge gap and The training sessions utilized interactive methodologies, such as simulations and case studies, which have been shown to enhance learning and retention [19] This suggests that incorporating similar strategies in future training programs could further improve knowledge retention.

Attitude Shift described the positive shift in attitudes, particularly in confidence levels and the perceived importance of adherence to guidelines, is noteworthy. Participants reported an increase in confidence from 3.5 to 4.2 on the Likert scale, aligning with the findings of previous studies that indicate improved attitudes following educational interventions More ever A confident healthcare provider is more likely to make timely and effective decisions in high-pressure situations, which is crucial in emergency settings furthermore This study's results suggest that enhancing provider confidence through training can lead to better patient outcomes.

Vol. 3 No. 7 (2025)
ISSN: 2995-5483

According to Practice Changes The reported improvement in adherence to evidence-based practices—from a pre-training score of 2.9 to a post-training score of 4.0—demonstrates the impact of education on practical application and that finding is consistent with the literature that emphasizes the correlation between knowledge and practice in clinical settings [20] which the study shows promising results, it is essential to recognize the challenges in maintaining these improvements over time while The "knowledge decay" phenomenon, where learned information is forgotten without reinforcement, poses a significant barrier Therefore to address this, ongoing training and refresher courses should be integrated into the professional development of emergency care providers, Like Regular simulations and updates on the latest evidence can reinforce knowledge and skills, ensuring that practitioners remain proficient in pediatric emergency care.

As Barriers to Implementation Despite the positive outcomes, several barriers to the implementation of evidence-based guidelines were identified Then Participants noted challenges such as time constraints, insufficient resources, and resistance to change within their institutions Regarding These barriers are well-documented in the literature and highlight the need for systemic changes in healthcare environments correspondingly Strategies to overcome these barriers include fostering a culture of continuous improvement within healthcare institutions and providing adequate resources for training and implementation additionally as discussion Engaging leadership in promoting the importance of adherence to guidelines can facilitate a supportive environment. Additionally, involving healthcare providers in the development of training programs can enhance buy-in and relevance, addressing resistance to change.

## Conclusion

In summary, this study demonstrates that structured training in evidence-based guidelines significantly enhances knowledge, attitudes, and practices among healthcare providers in pediatric emergency settings. Therefore, the results are promising; ongoing training, addressing barriers to implementation, and fostering a supportive culture are essential for sustained improvements. According to investing in education and resources, healthcare systems can ensure that pediatric patients receive the highest standard of care in emergency situations where The importance of continuous professional development cannot be overstated, as it ultimately translates into better health outcomes for children in need of urgent medical attention.

## References

1. Adhikari S, Sathian B, Koirala DP, Rao KS (2013) Profile of children admitted with seizures in a tertiary care hospital of western Nepal. BMC Pediatr 13:43.
2. Advanced Paediatric Life Support Australia (2012). Advanced paediatric life support, Australia and New Zealand: the practical approach, 5th Edition.
3. Melbourne. Agarwal P, Kumar N, Chandra R, Gupta G, Antony AR, Garg N (2007) Randomized study of intravenous valproate and phenytoin in status epilepticus. Seizure 16:527–532.
4. Shah, H., Somaiya, M., Chauhan, N., & Gautam, A. (2023). Clinical practice guidelines for assessment and management of children and adolescents presenting with psychiatric emergencies. Indian Journal of Psychiatry, 65 (2), 159-174.
5. Martin-Gill, Christian, Kathleen M. Brown, Rebecca E. Cash, Rachel M. Haupt, Benjamin T. Potts, Christopher T. Richards, P. Daniel Patterson, and Prehospital Guidelines Consortium. "2022 systematic review of evidence-based guidelines for prehospital care." Prehospital emergency care 27, no. 2 (2023): 131-143.
6. Kingsnorth, S., Orava, T., Parker, K., & Milo-Manson, G. (2020). From knowledge translation theory to practice: developing an evidence-to-care hub in a pediatric rehabilitation setting. Disability and Rehabilitation, 42 (6), 869-879.

Vol. 3 No. 7 (2025)
ISSN: 2995-5483

7. Cheng, A., Magid, D. J., Auerbach, M., Bhanji, F., Bigham, B. L., Blewer, A. L., ... & Donoghue, A. (2020). Part 6: resuscitation education science: 2020 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Circulation, 142 (16_Suppl_2), S551-S579.
8. Dorsey, B. F., Kamimura, A., Cook, L. J., Kadish, H. A., Cook, H. K., Kang, A., ... & Holsti, M. (2022). Communication gaps between providers and caregivers of patients in a pediatric emergency department. Journal of patient experience, 9, 23743735221112223.
9. Erickson, K. (2013). Transforming Evidence-based Clinical Obesity Guidelines into Practice: A Literature Review.
10. Sexton, Thomas L., Lynn Gilman, and Christine Johnson—Erickson. "Evidence-based practices." In Handbook of adolescent behavioral problems: Evidence-based approaches to prevention and treatment, pp. 101-128. Boston, MA: Springer US, 2005.
11. Rochfort, Andree, Sinead Beirne, Gillian Doran, Patricia Patton, Jochen Gensichen, Ilkka Kunnamo, Susan Smith, Tina Eriksson, and Claire Collins. "Does patient self-management education of primary care professionals improve patient outcomes: a systematic review?" BMC Family Practice 19, no. 1 (2018): 163.
12. Gardner, Frances, Yulia Shenderovich, Amalee McCoy, Moa Schafer, Mackenzie Martin, Roselinde Janowski, and Sheila Varadan. "WHO guidelines on parenting interventions to prevent maltreatment and enhance parent–child relationships with children aged 0–17 years: Report of the reviews for the WHO-INTEGRATE framework." WHO: Geneva, Switzerland (2023).
13. Karam, P. E., Hamad, L., Elsherif, M., Kreidieh, K., Nakouzi, G., El Asmar, K., ... & Yazbek, S. N. (2024). Genetic literacy among primary care physicians in a resource-constrained setting. BMC Medical Education, 24 (1), 140.
14. Lammers, R. L., Willoughby-Byrwa, M. J., Vos, D. G., & Fales, W. D. (2022). Comparison of four methods of paramedic continuing education in the management of pediatric emergencies. Prehospital emergency care, 26 (4), 463-475.
15. Thim, S., Henriksen, T. B., Laursen, H., Schram, A. L., Paltved, C., & Lindhard, M. S. (2022). Simulation-based emergency team training in pediatrics: a systematic review. Pediatrics, 149 (4), e2021054305.
16. Wang, Li, Shaomin Zheng, Qing Wang, Junyan Ma, Suyan Zhang, Jianping Ma, Ying Ma, Chunrong Chang, and Yuhui Cui. "Emergency nursing based on PEWS can improve the condition of children with acute asthma." Altern Ther Health Med 30, no. 8 (2024): 233-239.
17. Topjian, A. A., Raymond, T. T., Atkins, D., Chan, M., Duff, J. P., Joyner, B. L., ... & Pediatric Basic and Advanced Life Support Collaborators. (2021). Part 4: pediatric basic and advanced life support 2020 American Heart Association guidelines for cardiopulmonary resuscitation and emergency cardiovascular care. Pediatrics, 147 (Supplement 1), e2020038505D.
18. Turner, Ashley D., Travis Sullivan, Kurt Drury, Trevor A. Hall, Cydni N. Williams, Kristin P. Guilliams, Sarah Murphy, and A. M. Iqbal O'Meara. "Cognitive dysfunction after analgesia and sedation: out of the operating room and into the pediatric intensive care unit." Frontiers in Behavioral Neuroscience 15 (2021): 713668.
19. Lopez, M., Wilson, M., Cobbina, E., Kaufman, D., Fluitt, J., Grainger, M., ... & Chang, N. Y. (2023). Decreasing ICU and hospital length of stay through a standardized respiratory therapist-driven electronic clinical care pathway for status asthmaticus: Pediatric Quality & Safety, 8 (6), e697.

Vol. 3 No. 7 (2025)
ISSN: 2995-5483

20. Thim, Signe, Tine Brink Henriksen, Henrik Laursen, Anders Lund Schram, Charlotte Paltved, and Morten Søndergaard Lindhard. "Simulation-based emergency team training in pediatrics: a systematic review." Pediatrics 149, no. 4 (2022): e2021054305.