Media of Health Research

Vol. 3 No. 3, December 2025, pages: 125-136

e-ISSN 2987-7784

DOI: https://doi.org/10.70716/mohr.v3i3.607

AI-Assisted Health Information Seeking and Mothers' Preparedness for Pediatric Emergencies: The Roles of Trust, Perceived Usefulness, and Information Verification

Danur Azissah R Sofais[1*], Handi Rustandi[2], Dulce Elda Ximenes dos Reis[3], Firman Oswari[4]

[1,2,3] Health Science Department, Universitas Dehasen, Bengkulu, Indonesia

[,4]Public Health Department, Dili University, Dili, Timor Leste

**Corresponding Author: d.azissah@unived.ac.id*

Article History

Manuscript submitted:
25 October 2025
Manuscript revised:
03 November 2025
Accepted for publication:
20 December 2025
Manuscript published:
30 December 2025

Keywords

Artificial Intelligence; Health Information Seeking; Mothers; Pediatric Emergencies; Preparedness; Information Verification

Abstract

Artificial intelligence (AI) has increasingly become a source of health information for parents, yet its role in supporting preparedness for pediatric emergencies remains unclear. This study examined the relationships between dimensions of AI-assisted health information seeking and mothers' preparedness for pediatric emergencies. A cross-sectional survey was conducted among 385 mothers with children aged 0–12 years in Indonesia. Data were collected through an online questionnaire measuring AI-assisted health information seeking, including frequency of use, trust in AI, perceived usefulness, and information verification, as well as preparedness for pediatric emergencies. Data were analyzed using descriptive statistics, Pearson correlation, and multiple linear regression in IBM SPSS Statistics version 27. Information verification showed the strongest positive association with preparedness, whereas frequency of AI use demonstrated only a weak correlation.. Multiple linear regression revealed that information verification was the strongest predictor of preparedness ($\beta = 0.41$, $p < 0.001$), followed by perceived usefulness ($\beta = 0.18$, $p < 0.001$) and trust in AI ($\beta = 0.12$, $p = 0.004$). Frequency of AI use was not significantly associated with preparedness ($p = 0.102$). The model explained 38% of the variance in preparedness scores. Mothers' preparedness for pediatric emergencies is influenced more by critical engagement with AI-generated information than by the frequency of AI use. Strengthening AI literacy and information verification skills may enhance the safe and effective use of AI in child health decision-making.

Copyright © 2025, The Author(s)
This is an open access article under the CC BY-SA license

How to Cite: Sofais, D. A. R., Rustandi, H., Irianti, B., Reis, D. E. X. D., & Oswari, F. (2025). AI-Assisted Health Information Seeking and Mothers' Preparedness for Pediatric Emergencies: The Roles of Trust, Perceived Usefulness, and Information Verification. *Media of Health Research, 3*(3), 125-136. https://doi.org/10.70716/mohr.v3i3.607

Introduction

Pediatric emergencies represent a critical challenge in child health because clinical deterioration may occur rapidly, often within minutes of symptom onset, leaving limited time for caregivers to recognize danger signs and initiate appropriate responses (Onyejesi et al., 2025). Conditions such as febrile seizures, airway obstruction, poisoning, severe allergic reactions, trauma, and acute respiratory distress frequently occur outside healthcare facilities, placing parents at the forefront of emergency recognition and decision-making (Chong et al., 2022). The effectiveness of early responses during these events substantially influences treatment delays, complication rates, healthcare utilization, and clinical outcomes among children (Gill et al., 2022). Mothers, who commonly assume primary caregiving responsibilities, play a pivotal role in monitoring symptoms, interpreting health information, determining the urgency of a condition, and initiating first-aid actions before professional assistance becomes available (Alnajjar et al., 2025). Preparedness for pediatric emergencies therefore extends beyond factual knowledge; it encompasses cognitive readiness, situational judgment, confidence in decision-making, and the capacity to translate information into timely action under conditions of uncertainty (Newgard et al., 2023). Despite extensive efforts to improve parental health education, disparities in emergency preparedness remain evident across populations, suggesting that access to information alone may not be sufficient to ensure effective emergency responses (Onyejesi et al., 2025).

The emergence of generative artificial intelligence (AI) has fundamentally transformed how health information is sought, interpreted, and utilized by the public (Bharel et al., 2024). Unlike conventional search engines that require users to navigate and evaluate multiple information sources, AI-powered conversational platforms provide immediate, personalized, and context-sensitive responses to health-related questions (Rabbani et al., 2025). For mothers confronted with concerns regarding a child's symptoms, AI systems offer an accessible source of guidance that can be consulted at any time, often before healthcare professionals are contacted (Whiles et al., 2023). Proponents argue that AI democratizes access to health information, strengthens health literacy, supports informed decision-making, and may enhance preparedness for managing health emergencies (Branda et al., 2025). Yet an opposing perspective has gained increasing attention. AI-generated responses may contain inaccuracies, incomplete recommendations, fabricated information, or overly reassuring interpretations that are difficult for non-expert users to identify (Kasthuri et al., 2024). Such limitations raise concerns that reliance on AI could foster misplaced confidence, delay professional care-seeking, or encourage inappropriate emergency responses (Raghunath et al., 2025). These competing arguments reveal a critical tension: the same technology that promises to strengthen preparedness may also introduce new vulnerabilities into emergency decision-making.

Recent evidence has produced conflicting expectations regarding the consequences of AI-assisted health information seeking. Several studies suggest that greater trust in AI-generated information encourages information acquisition, strengthens confidence in health-related decision-making, and increases users' willingness to engage with digital health resources (Svestkova et al., 2025). From this perspective, trust functions as a facilitating mechanism that enables individuals to benefit from the informational advantages offered by AI systems (Guo et al., 2025). Other studies, however, caution that excessive trust may reduce critical appraisal, increase susceptibility to inaccurate recommendations, and promote overreliance on algorithm-generated guidance, particularly among users with limited health literacy. Similar inconsistencies have emerged in relation to perceived usefulness. While useful technologies are generally associated with greater adoption and behavioral engagement, perceived usefulness does not necessarily guarantee the

accuracy of information interpretation or the appropriateness of subsequent actions (Lermann Henestrosa & Kimmerle, 2025). Information verification introduces an additional layer of complexity. Verification behavior may strengthen preparedness by encouraging users to cross-check information with healthcare professionals or authoritative sources; however, excessive verification may also reflect uncertainty and indecision that delay timely action during emergency situations (Li & Yang, 2024). These competing perspectives indicate that the relationships among trust, perceived usefulness, information verification, and preparedness are unlikely to be straightforward, underscoring the need for empirical investigation in pediatric emergency contexts.

Drawing upon the Technology Acceptance Model (TAM) and information processing perspectives, this study conceptualizes AI-assisted health information seeking as a multidimensional behavior. TAM suggests that individuals are more likely to utilize and benefit from technologies they perceive as useful, while trust influences willingness to rely on technology-generated information in decision-making processes [citation]. Information processing perspectives further emphasize that the impact of information depends not only on access but also on how information is evaluated, interpreted, and verified before being translated into action [citation]. Within pediatric emergency contexts, trust may facilitate reliance on AI-generated information, perceived usefulness may enhance information utilization, and information verification may function as a critical appraisal mechanism that strengthens decision quality. These dimensions were therefore selected to capture complementary pathways through which AI-assisted health information seeking may influence mothers' preparedness for pediatric emergencies.

Current evidence provides limited insight into how this tension operates in real-world caregiving settings. Existing studies have predominantly examined health information-seeking behavior through the lenses of internet use, digital health literacy, telehealth adoption, or technology acceptance (Melhem et al., 2025). Research concerning artificial intelligence has largely focused on diagnostic performance, information quality, user satisfaction, and intentions to adopt AI-based technologies (Fang et al., 2024). Investigations of pediatric emergency preparedness, meanwhile, have traditionally emphasized parental knowledge, first-aid training, socioeconomic factors, and healthcare accessibility (Alwasedi et al., 2025). These bodies of literature rarely intersect. More importantly, AI-assisted health information seeking is often treated as a homogeneous behavior, implicitly assuming that AI use exerts a uniform influence on health-related outcomes (Bharel et al., 2024). Such an assumption overlooks the possibility that preparedness may depend less on access to AI itself and more on how mothers engage with AI-generated information. Trust in AI, perceptions of its usefulness, and information verification practices may represent distinct mechanisms that shape preparedness in different directions. A mother who frequently consults AI but rarely verifies its recommendations may exhibit a markedly different preparedness profile from a mother who critically evaluates AI-generated information before acting upon it. Evidence addressing these dimensions remains scarce, creating uncertainty regarding the actual role of AI in pediatric emergency preparedness.

This study aims to examine the relationships between AI-assisted health information seeking and mothers' preparedness for pediatric emergencies, with particular attention to the roles of trust, perceived usefulness, and information verification. By conceptualizing AI-assisted health information seeking as a multidimensional behavior rather than a single exposure, this study seeks to provide a more nuanced understanding of how mothers interact with AI-generated health information during situations characterized by urgency and uncertainty. The findings are expected to contribute to the emerging literature on AI-mediated health decision-making, clarify whether preparedness is primarily driven by technology utilization or by critical engagement with AI-generated information, and provide evidence to inform future digital health education initiatives designed to promote safe and effective use of artificial intelligence in child health management.

Materials and Methods

Research Design and Setting

This study employed an analytical cross-sectional design to examine the relationships between dimensions of AI-assisted health information seeking and mothers' preparedness for pediatric emergencies. Data were collected between January and March 2025 using an online survey administered through Google Forms. The survey was disseminated through parenting communities, family health forums, and social media platforms to reach mothers from various regions of Indonesia. The cross-sectional design was considered appropriate for assessing the associations among frequency of AI use, trust in AI-generated health information, perceived usefulness, information verification behavior, and preparedness for pediatric emergencies within a single period of observation.

Participants and Sampling

The study population consisted of mothers with at least one child aged 0–12 years who had experience using AI-based platforms to obtain health-related information. Eligible participants were mothers aged 18 years or older who had used artificial intelligence–based platforms, including ChatGPT, Gemini, Copilot, Perplexity, or similar systems, to obtain child health-related information during the previous six months. Participants were required to be able to read and understand Indonesian and provide informed consent before completing the questionnaire. Mothers who submitted incomplete questionnaires, duplicate responses, or responses demonstrating inattentive completion patterns were excluded from the analysis.

Participants were recruited using purposive sampling. A total of 412 responses were initially obtained during the data collection period. Following data screening, 11 duplicate submissions, 9 incomplete questionnaires, and 7 responses identified as inattentive based on response-pattern analysis were excluded. Consequently, data from 385 mothers were retained for final analysis. This sample size exceeded the minimum requirement for multiple linear regression analysis and was considered sufficient to ensure adequate statistical power for the study objectives.

Research Instrument

Data were collected using a structured questionnaire developed based on the literature concerning health information-seeking behavior, technology acceptance, digital health literacy, trust in artificial intelligence, and emergency preparedness. The questionnaire consisted of two principal constructs: AI-assisted health information seeking and mothers' preparedness for pediatric emergencies. AI-assisted health information seeking was operationalized through four dimensions, namely frequency of use, trust in AI, perceived usefulness, and information verification. Mothers' preparedness for pediatric emergencies was measured through four dimensions, including emergency recognition, decision-making readiness, first-aid preparedness, and resource preparedness. The questionnaire consisted of 39 items in total, including 19 items measuring AI-assisted health information seeking and 20 items measuring preparedness for pediatric emergencies. All items were rated using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of the respective construct.

Table 1. Operational Definition of Study Variables and Dimensions

Variable	Dimension	Operational Definition	Items
AI-Assisted Health Information Seeking	Frequency of Use	Frequency of using AI platforms to obtain child health information	4
	Trust in AI	Degree of confidence in AI-generated	5

		health information	
	Perceived Usefulness	Perceived benefits of AI for understanding and managing child health concerns	5
	Information Verification	Tendency to verify AI-generated information using professional or authoritative sources	5
Mothers' Preparedness for Pediatric Emergencies	Emergency Recognition	Ability to recognize signs and symptoms requiring immediate attention	5
	Decision-Making Readiness	Confidence and ability to determine appropriate emergency actions	5
	First-Aid Preparedness	Readiness to perform immediate first-aid measures	5
	Resource Preparedness	Availability of emergency resources and plans	5

Validity and Reliability

The questionnaire underwent content validation by a panel of experts with backgrounds in pediatric nursing, emergency nursing, health informatics, and digital health. Subsequently, a pilot test was conducted with 40 mothers to examine the instrument's construct validity and internal consistency. Exploratory factor analysis (EFA) was employed to evaluate construct validity, while reliability was determined using Cronbach's alpha. Detailed psychometric findings are reported in the Results section.

Data Analysis

Statistical analyses were carried out using IBM SPSS Statistics version 27. Respondents' demographic profiles and study variables were first summarized through descriptive statistics. Numerical data were expressed as mean values accompanied by standard deviations, whereas categorical data were presented as frequencies and proportions. Before conducting inferential analyses, several statistical assumptions were evaluated, including normality, linearity, homoscedasticity, and the absence of multicollinearity among the independent variables. Bivariate associations between AI-assisted health information-seeking dimensions and mothers' preparedness for pediatric emergencies were examined using Pearson's product-moment correlation test. To determine the relative contribution of each predictor, multiple linear regression analysis was employed. The dimensions of AI-assisted health information seeking—namely frequency of use, trust in AI, perceived usefulness, and information verification—were entered simultaneously into the regression model as independent variables, while preparedness for pediatric emergencies served as the outcome variable. Statistical significance was determined at a two-tailed p-value of less than 0.05, with 95% confidence intervals reported where appropriate. Standardized beta coefficients were used to compare the magnitude of the associations across predictor variables. Preparedness scores were derived by aggregating responses from all preparedness-related items and converting the resulting values into percentages of the maximum possible score. For descriptive interpretation, preparedness levels were classified into three categories: low (<60%), moderate (60–79%), and high (≥80%). These categories were applied solely to facilitate interpretation of preparedness levels and did not represent clinical, diagnostic, or standardized classification thresholds.

Ethical considerations

The study was performed only after receiving authorization from the Health Research Ethics Committee of Universitas Dehasen Bengkulu (Reference No. 0027/KEPK/FK/I/2025). Respondents

were informed about the purpose of the research, the voluntary nature of participation, data confidentiality, and their right to withdraw at any stage before providing electronic consent and completing the survey. Participant anonymity was preserved by excluding any form of personal identification from the questionnaire. Data obtained from the survey were treated confidentially and retained in protected electronic storage accessible solely to members of the research team. All research activities involving human participants adhered to internationally recognized ethical standards as outlined in the Declaration of Helsinki.

Results and Discussions

Results

Respondent Characteristics

Following data screening and eligibility verification procedures, 385 mothers were retained for inclusion in the final analysis. The demographic profile of the study participants is summarized in Table 2. Most respondents were aged 26–35 years (50.1%), followed by those aged 36–45 years (30.1%). Nearly half of the participants held a bachelor's degree (47.5%), while 55.6% were employed. Regarding the use of artificial intelligence for child health information, 44.2% of respondents reported frequent use, whereas 38.4% reported occasional use. These findings indicate that AI-assisted health information seeking has become a relatively common practice among mothers participating in this study.

Table 2. Participant Characteristics (n = 385)

Characteristics	n	%
Age (years)		
18–25	54	14.0
26–35	193	50.1
36–45	116	30.1
>45	22	5.8
Educational attainment		
High school or below	87	22.6
Diploma	71	18.4
Bachelor's degree	183	47.5
Postgraduate degree	44	11.5
Employment status		
Homemaker	171	44.4
Employed	214	55.6
Frequency of AI use for child health information		
Rarely	67	17.4
Occasionally	148	38.4
Frequently	170	44.2

Psychometric Properties of the Instrument

The measurement instrument underwent a series of psychometric evaluations to determine its validity and reliability. Content validity was established through a two-stage review process involving four experts with expertise in pediatric nursing, emergency care, health informatics, and digital health. Expert ratings indicated strong agreement regarding the relevance and representativeness of the items, reflected by I-CVI values ranging from 0.80 to 1.00 and an overall S-CVI/Ave of 0.94.

Following content validation, the instrument was subjected to construct validation using exploratory factor analysis (EFA). The analysis supported the underlying factor structure, with item loadings ranging between 0.648 and 0.867, all exceeding the minimum acceptable criterion. Reliability testing further demonstrated good internal consistency across all dimensions, as evidenced by Cronbach's alpha coefficients ranging from 0.816 to 0.889. Collectively, these results support the suitability of the instrument for measuring AI-assisted health information seeking and preparedness for pediatric emergencies among mothers.

Table 3. Validity and Reliability of the Study Instrument

Dimension	Factor Loading Range	Cronbach's Alpha
Frequency of Use	0.673–0.821	0.816
Trust in AI	0.691–0.854	0.873
Perceived Usefulness	0.704–0.867	0.889
Information Verification	0.658–0.832	0.841
Emergency Recognition	0.682–0.845	0.856
Decision-Making Readiness	0.701–0.861	0.881
First-Aid Preparedness	0.676–0.838	0.847
Resource Preparedness	0.648–0.819	0.822

Scale-Level Content Validity Index (S-CVI/Ave) = 0.94

Descriptive Statistics of Study Variables

Table 4 presents the descriptive statistics of the study variables. Among the dimensions of AI-assisted health information seeking, perceived usefulness demonstrated the highest mean score (20.31 ± 3.16), followed by information verification (19.76 ± 3.27) and trust in AI (18.94 ± 3.41). Regarding preparedness, resource preparedness showed the highest mean score (20.51 ± 2.65), whereas first-aid preparedness demonstrated the lowest mean score (18.37 ± 3.24). The overall preparedness score was 78.84 ± 9.52, indicating a moderate-to-high level of preparedness among participating mothers.

Table 4. Descriptive Statistics of Study Variables

Variables	Mean	SD
Frequency of Use	15.72	2.89
Trust in AI	18.94	3.41
Perceived Usefulness	20.31	3.16
Information Verification	19.76	3.27
Emergency Recognition	20.12	2.78
Decision-Making Readiness	19.84	2.91
First-Aid Preparedness	18.37	3.24
Resource Preparedness	20.51	2.65
Overall Preparedness	**78.84**	**9.52**

Correlation Analysis

Relationships among the study variables were explored using Pearson's correlation coefficients. The results presented in Table 5 indicate that all dimensions of AI-assisted health information seeking were significantly and positively related to mothers' preparedness for pediatric emergencies. Among these dimensions, information verification exhibited the strongest association with preparedness ($r = 0.57$, $p < 0.001$), whereas frequency of AI use showed the weakest, albeit statistically significant, relationship ($r = 0.21$, $p < 0.001$). Moderate positive correlations were observed for perceived usefulness ($r = 0.41$, $p < 0.001$) and trust in AI ($r = 0.34$, $p < 0.001$). The correlation matrix further revealed positive interrelationships among the predictor variables, suggesting that mothers who engaged more actively with AI platforms were also more likely to

perceive AI as useful, place greater trust in AI-generated information, and verify information obtained from these systems. Prior to fitting the regression model, multicollinearity diagnostics were evaluated to ensure the stability of the parameter estimates. The tolerance statistics ranged from 0.58 to 0.81, while the corresponding VIF values varied between 1.23 and 1.72. As all values fell well within recommended limits, multicollinearity was not considered a concern in the subsequent regression analysis.

Table 5. Pearson Correlations Among Study Variables

Variables	1	2	3	4	5
1. Frequency of Use	—				
2. Trust in AI	0.38**	—			
3. Perceived Usefulness	0.42**	0.59**	—		
4. Information Verification	0.27**	0.33**	0.46**	—	
5. Preparedness	0.21**	0.34**	0.41**	0.57**	—

p < 0.01.

Multiple Linear Regression Analysis

A multiple linear regression model was constructed to examine the extent to which the dimensions of AI-assisted health information seeking contributed to mothers' preparedness for pediatric emergencies. The overall model demonstrated statistical significance ($F = 42.83$, $p < 0.001$) and accounted for 38% of the variability in preparedness scores (Adjusted $R^2 = 0.38$), indicating a moderate explanatory capacity. As shown in Table 6, information verification was identified as the most influential predictor of preparedness ($\beta = 0.41$, $p < 0.001$). Perceived usefulness ($\beta = 0.18$, $p < 0.001$) and trust in AI ($\beta = 0.12$, $p = 0.004$) also contributed significantly to the model. In contrast, frequency of AI use did not exhibit a statistically significant effect after adjustment for the remaining predictors ($\beta = 0.07$, $p = 0.102$). These results suggest that preparedness for pediatric emergencies is influenced more by the quality of engagement with AI-generated information than by the frequency of technology use itself. Mothers who actively assessed the value of information, placed appropriate trust in AI outputs, and verified information through additional sources tended to demonstrate higher levels of preparedness than those who merely used AI more frequently.

Table 6. Multiple Linear Regression Predicting Mothers' Preparedness for Pediatric Emergencies

Predictor	B	SE	β	t	p	Tolerance	VIF
Frequency of Use	0.18	0.11	0.07	1.64	0.102	0.81	1.23
Trust in AI	0.41	0.14	0.12	2.93	0.004	0.58	1.72
Perceived Usefulness	0.67	0.16	0.18	4.19	<0.001	0.60	1.67
Information Verification	1.42	0.17	0.41	8.35	<0.001	0.73	1.37

$F = 42.83$; $p < 0.001$; Adjusted $R^2 = 0.38$.

Discussions

The present study examined the relationships between AI-assisted health information seeking and mothers' preparedness for pediatric emergencies. Overall, the findings suggest that preparedness is influenced less by exposure to artificial intelligence itself and more by the ways in which mothers engage with AI-generated information. The results indicate that the benefits of AI-assisted health information seeking are not uniform across all dimensions but depend on how information is evaluated, interpreted, and incorporated into decision-making processes. This finding contributes to the growing literature on AI-mediated health decision-making by highlighting the importance of critical engagement with AI-generated information in situations characterized by uncertainty and urgency, such as pediatric emergencies (Kolivand et al., 2025).

Trust in AI and perceived usefulness were significant predictors of preparedness, suggesting that mothers who viewed AI-generated information as reliable and beneficial were more likely to report greater readiness for pediatric emergencies. These findings align with previous research indicating that trust facilitates information utilization, while perceived usefulness enhances engagement with digital health technologies and supports health-related decision-making (Branda et al., 2025). In emergency situations, confidence in information sources and the perceived value of information may help mothers recognize symptoms, evaluate urgency, and determine appropriate responses. However, the positive role of trust should be interpreted cautiously. Excessive reliance on AI-generated information may reduce critical appraisal and increase vulnerability to inaccurate or incomplete recommendations, particularly when users perceive AI outputs as inherently authoritative(Demblon et al., 2023). These findings suggest that trust and usefulness contribute to preparedness when accompanied by appropriate evaluation of information quality.

Among all dimensions examined, information verification emerged as the strongest predictor of preparedness. Mothers who actively verified AI-generated information through healthcare professionals, authoritative health resources, or multiple information sources demonstrated substantially higher preparedness levels. This finding highlights the importance of critical engagement with AI-generated information rather than passive acceptance of technological outputs. Verification behavior may serve as a quality-control mechanism that enables users to identify inaccuracies, strengthen confidence in decision-making, and transform information into reliable knowledge that can be applied during emergency situations. The finding supports growing evidence that the benefits of digital health information depend not only on access to information but also on users' ability to critically evaluate its credibility and relevance before acting upon it.

In contrast, frequency of AI use was not significantly associated with preparedness after controlling for trust, perceived usefulness, and information verification. This finding challenges the common assumption that greater exposure to digital health information automatically translates into improved preparedness outcomes (Demblon et al., 2023). Although AI-powered platforms increase access to health information, access alone does not guarantee comprehension, appropriate interpretation, or effective action. Mothers may frequently consult AI systems without adequately evaluating the information received, resulting in limited gains in preparedness. Repeated exposure to information may create familiarity with health-related concepts, yet familiarity should not be equated with readiness to recognize emergency symptoms, make timely decisions, or perform appropriate first-aid measures. The present findings therefore suggest that preparedness depends less on the frequency of information seeking and more on the ability to convert information into actionable knowledge under conditions of uncertainty and time pressure.

The present study contributes to the growing literature on AI-mediated health decision-making by extending the focus beyond technology adoption and utilization. Existing discussions frequently emphasize access, efficiency, and technological capability as determinants of positive outcomes. The findings of this study suggest a more nuanced perspective in which preparedness is shaped by users' ability to evaluate and verify information before incorporating it into decision-making. This finding supports a shift from technology-centered perspectives toward user-centered approaches that emphasize critical appraisal, informed judgment, and responsible engagement with AI-generated information (Sánchez-García et al., 2025). Rather than demonstrating that AI use alone improves preparedness, the study suggests that the value of AI depends on how users process and validate the information it provides.

Although the regression model was statistically significant, it explained 38% of the variance in preparedness, indicating that preparedness is influenced by factors beyond the AI-related dimensions examined in this study. Pediatric emergency preparedness is a multifaceted construct shaped by individual, educational, experiential, and contextual factors. Previous studies have

identified first-aid training, educational attainment, health literacy, previous experience with pediatric emergencies, parental self-efficacy, and access to healthcare resources as important determinants of preparedness. Mothers who have previously managed emergency situations or received formal first-aid training may possess practical knowledge and confidence that cannot be acquired solely through information seeking. Similarly, health literacy may influence an individual's ability to interpret, evaluate, and apply health information obtained from AI platforms. These considerations suggest that AI-assisted health information seeking represents one component of a broader preparedness framework rather than a comprehensive explanation of preparedness outcomes.

From a practical perspective, efforts to improve pediatric emergency preparedness should not focus solely on expanding access to AI technologies. Educational interventions should also strengthen AI literacy, information evaluation skills, and verification practices. Healthcare professionals may play an important role in helping parents understand both the benefits and limitations of AI-generated health information. Encouraging informed and critical engagement with AI may enhance the safe and effective use of these technologies in child health decision-making (Pennestrì et al., 2025).

This study should be interpreted in light of several limitations. First, the cross-sectional nature of the research does not permit conclusions regarding causal relationships among the variables examined. Second, the reliance on self-administered questionnaires may have introduced response-related biases, including inaccuracies in recall and the tendency of participants to provide socially desirable answers. The sampling approach also warrants consideration. Participants were recruited from online parenting networks and social media communities, resulting in a sample that was likely more familiar with digital technologies and AI-based information sources than the general population of mothers. As a result, the findings may primarily reflect the experiences and behaviors of digitally connected caregivers. Mothers with limited internet access, lower digital literacy, or little experience using AI tools may engage with health information differently and exhibit distinct levels of preparedness for pediatric emergencies. Consequently, caution is required when extending these findings to less digitally engaged populations. Future investigations should consider employing broader recruitment strategies and more representative sampling methods to capture a wider range of demographic, socioeconomic, and technological backgrounds. Longitudinal designs may also provide deeper insights into how AI-assisted health information-seeking behaviors influence preparedness over time.

Conclusion

This study demonstrates that AI-assisted health information seeking is associated with mothers' preparedness for pediatric emergencies, although the strength of this relationship varies across its dimensions. Trust in AI, perceived usefulness, and information verification were significant predictors of preparedness, whereas frequency of AI use was not independently associated with preparedness after controlling for other factors. Information verification emerged as the strongest predictor, suggesting that the benefits of AI are derived not merely from access to information but from mothers' ability to critically evaluate and validate AI-generated content before applying it in emergency situations. These findings highlight the importance of integrating AI literacy and information verification skills into pediatric emergency preparedness programs to support safe and effective use of artificial intelligence in child health decision-making.

References

Alnajjar, H. A., Hantira, N. Y., Kassem, F. K., Ahmed, H. A., Fouda, M. E., & Elkaluby, E. A. (2025). Enhancing Mothers? Preparedness for Home Safety and Emergency Response: The Effect of Simulation-Based First Aid Training among Mothers of Under-Five Children [version 1; peer review: awaiting peer review] . *F1000Research*, *14*(1223). https://doi.org/10.12688/f1000research.171977.1

Alwasedi, A. M., Al-Wathinani, A. M., Gómez-Salgado, J., Abahussain, M. A., Alnajada, A., & Goniewicz, K. (2025). Maternal knowledge of pediatric first aid in Riyadh: Addressing gaps for improved child safety and women's health outcomes. *Medicine*, *104*(7). https://journals.lww.com/md-journal/fulltext/2025/02140/maternal_knowledge_of_pediatric_first_aid_in.4.aspx

Bharel, M., Auerbach, J., Nguyen, V., & DeSalvo, K. B. (2024). Transforming Public Health Practice With Generative Artificial Intelligence. *Health Affairs*, *43*(6), 776–782. https://doi.org/10.1377/hlthaff.2024.00050

Branda, F., Stella, M., Ceccarelli, C., Cabitza, F., Ceccarelli, G., Maruotti, A., Ciccozzi, M., & Scarpa, F. (2025). The Role of AI-Based Chatbots in Public Health Emergencies: A Narrative Review. In *Future Internet* (Vol. 17, Issue 4, p. 145). https://doi.org/10.3390/fi17040145

Chong, S.-L., Goh, M. S. L., Ong, G. Y.-K., Acworth, J., Sultana, R., Yao, S. H. W., Ng, K. C., Scholefield, B., Aickin, R., Maconochie, I., Atkins, D., Couto, T. B., Guerguerian, A.-M., Kleinman, M., Kloeck, D., Nadkarni, V., Nuthall, G., Reis, A., Rodriguez-Nunez, A., … Morley, P. (2022). Do paediatric early warning systems reduce mortality and critical deterioration events among children? A systematic review and meta-analysis. *Resuscitation Plus*, *11*, 100262. https://doi.org/https://doi.org/10.1016/j.resplu.2022.100262

Demblon, M.-C., Bicknell, C., & Aufegger, L. (2023). Systematic review of the development and effectiveness of digital health information interventions, compared with usual care, in supporting patient preparation for paediatric hospital care, and the impact on their health outcomes. *Frontiers in Health Services*, *Volume 3*-. https://doi.org/10.3389/frhs.2023.1103624

Fang, Z., Liu, Y., & Peng, B. (2024). Empowering older adults: bridging the digital divide in online health information seeking. *Humanities and Social Sciences Communications*, *11*(1), 1748. https://doi.org/10.1057/s41599-024-04312-7

Gill, F. J., Cooper, A., Falconer, P., Stokes, S., & Leslie, G. D. (2022). Development of an evidence-based ESCALATION system for recognition and response to paediatric clinical deterioration. *Australian Critical Care*, *35*(6), 668–676. https://doi.org/https://doi.org/10.1016/j.aucc.2021.09.004

Guo, Shuangyan, Song, Yang, Chen, Guanyun, Han, Hongxin, Wu, Hong, & Ma, Jingdong. (2025). Promoting trust and intention to adopt health information generated by ChatGPT among healthcare customers: An empirical study. *DIGITAL HEALTH*, *11*, 20552076251374120. https://doi.org/10.1177/20552076251374121

Kasthuri, V. S., Glueck, J., Pham, H., Daher, M., Balmaceno-Criss, M., McDonald, C. L., Diebo, B. G., & Daniels, A. H. (2024). Assessing the accuracy and reliability of AI-generated responses to patient questions regarding spine surgery. *JBJS*, *106*(12), 1136–1142. https://doi.org/10.2106/JBJS.23.00914

Kolivand, P., Azari, S., Bakhtiari, A., Namdar, P., Ayyoubzadeh, S. M., Rajaie, S., & Ramezani, M. (2025). AI applications in disaster governance with health approach: A scoping review. *Archives of Public Health*, *83*(1), 218. https://doi.org/10.1186/s13690-025-01712-2

Lermann Henestrosa, A., & Kimmerle, J. (2025). "Always check important information!" - The role of disclaimers in the perception of AI-generated content. *Computers in Human Behavior: Artificial*

Humans, *4*, 100142. https://doi.org/https://doi.org/10.1016/j.chbah.2025.100142

Li, F., & Yang, Y. (2024). Impact of artificial intelligence–generated content labels on perceived accuracy, message credibility, and sharing intentions for misinformation: Web-based, randomized, controlled experiment. *JMIR Formative Research*, *8*(1), e60024.

Melhem, S., Kayyali, R., Nabhani-Gebara, S., Almomani, H., Elian, M., Alabbadi, I., Almousa, R., Almousa, A., & Alrashdan, Y. (2025). *The Role of Digital Literacy, Health Literacy, and Information-Seeking Behaviour in Cancer Care: Empowering Survivors through Knowledge and Action* (J. Fusi, G. Scarfò, & F. Franzoni (eds.)). IntechOpen. https://doi.org/10.5772/intechopen.1009800

Newgard, C. D., Lin, A., Malveau, S., Cook, J. N. B., Smith, M., Kuppermann, N., Remick, K. E., Gausche-Hill, M., Goldhaber-Fiebert, J., Burd, R. S., Hewes, H. A., Salvi, A., Xin, H., Ames, S. G., Jenkins, P. C., Marin, J., Hansen, M., Glass, N. E., Nathens, A. B., … Group, P. R. S. (2023). Emergency Department Pediatric Readiness and Short-term and Long-term Mortality Among Children Receiving Emergency Care. *JAMA Network Open*, *6*(1), e2250941–e2250941. https://doi.org/10.1001/jamanetworkopen.2022.50941

Onyejesi, C. D., Alsabri, M., Del Castillo Miranda, J. C., Aziz, M. M., Ram, M. D., Abady, E. M., & Abdelbar, S. M. (2025). Pediatric emergency disaster preparedness: a narrative review of global disparities, challenges, and policy solutions. *International Journal of Emergency Medicine*, *18*(1), 91. https://doi.org/10.1186/s12245-025-00856-w

Pennestrì, F., Cabitza, F., Picerno, N., & Banfi, G. (2025). Sharing reliable information worldwide: healthcare strategies based on artificial intelligence need external validation. Position paper. *BMC Medical Informatics and Decision Making*, *25*(1), 56. https://doi.org/10.1186/s12911-025-02883-2

Rabbani, S. A., El-Tanani, M., Sharma, S., Rabbani, S. S., El-Tanani, Y., Kumar, R., & Saini, M. (2025). Generative Artificial Intelligence in Healthcare: Applications, Implementation Challenges, and Future Directions. In *BioMedInformatics* (Vol. 5, Issue 3, p. 37). https://doi.org/10.3390/biomedinformatics5030037

Raghunath, A., Maharjan, P., Toprakbasti, Z., & Anderson, R. (2025). "Being Hopeful is Mandatory": Characterizing Gaps Between the Imaginaries and Realities of AI-enabled Healthcare in Nepal. *Proc. ACM Hum.-Comput. Interact.*, *9*(7). https://doi.org/10.1145/3757526

Sánchez-García, P., Diez-Gracia, A., Mayorga, I. R., & Jerónimo, P. (2025). Media Self-Regulation in the Use of AI: Limitation of Multimodal Generative Content and Ethical Commitments to Transparency and Verification. In *Journalism and Media* (Vol. 6, Issue 1, p. 29). https://doi.org/10.3390/journalmedia6010029

Svestkova, Adela, Huang, Yi, & Smahel, David. (2025). Factors that influence trust and willingness to use generative AI for health information: A cross-sectional study. *DIGITAL HEALTH*, *11*, 20552076251360972. https://doi.org/10.1177/20552076251360973

Whiles, B. B., Bird, V. G., Canales, B. K., DiBianco, J. M., & Terry, R. S. (2023). Caution! AI Bot Has Entered the Patient Chat: ChatGPT Has Limitations in Providing Accurate Urologic Healthcare Advice. *Urology*, *180*, 278–284. https://doi.org/https://doi.org/10.1016/j.urology.2023.07.010