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Parental Trust in Artificial Intelligence and Pediatricians: A Cross-Sectional Study of Diagnostic Preferences and Healthcare-Seeking Behaviors in Saudi Arabia

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Abstract

Introduction

Artificial intelligence (AI) is increasingly used by parents to obtain health information and may influence healthcare decision-making in pediatric settings. However, little is known about how parents respond when AI-generated recommendations conflict with pediatricians' assessments. This study aimed to evaluate parental trust in AI and pediatricians, assess diagnostic preferences during AI-pediatrician disagreement, and identify factors associated with reliance on AI recommendations among parents in Saudi Arabia.

Methods

A cross-sectional online survey was conducted among parents in Saudi Arabia. Participants completed a structured questionnaire assessing demographics, AI familiarity and use, trust in AI and pediatricians, and intended healthcare-seeking behavior during a hypothetical scenario involving disagreement between an AI system and a pediatrician. Factors associated with preference for AI recommendations were evaluated using multivariable logistic regression.

Results

A total of 420 parents participated. Most respondents were familiar with AI technologies (n=346, 82.4%), and 176 (41.9%) had previously used AI for child health information. Trust in pediatricians was higher than trust in AI (mean trust score: 4.42 ± 0.51 vs. 3.21 ± 0.76). During a hypothetical diagnostic disagreement, 321 (76.4%) parents favored the pediatrician's opinion, whereas only 37 (8.8%) preferred the AI recommendation. The most common intended responses were seeking a second pediatric opinion (n=174, 41.4%) or following the original pediatrician's advice (n=173, 41.2%). Previous use of AI for child-health information (adjusted odds ratio (aOR)=2.93, 95% CI: 1.67-5.13; p<0.001) and higher trust in AI (aOR=4.82, 95% CI: 2.61-8.91; p<0.001) were independently associated with preference for AI recommendations, whereas higher trust in pediatricians was associated with lower odds of preferring AI recommendations (aOR=0.41, 95% CI: 0.23-0.74; p=0.003).

Conclusions

Although AI use was common among Saudi parents, pediatricians remained the preferred and most trusted source of healthcare advice. When AI recommendations conflicted with physician assessments, most parents favored pediatricians or sought additional professional opinions rather than relying on AI alone. AI presently appears to serve as a complementary source of health information rather than a substitute for pediatric expertise.

Categories: Pediatrics
Keywords: artificial intelligence, child health, decision-making, diagnostic disagreement, healthcare-seeking behavior, parents, pediatrician, pediatrics, saudi arabia, trust

Introduction

Artificial intelligence (AI) has emerged as one of the most transformative technologies in modern healthcare, with applications spanning medical imaging, clinical decision support, disease prediction, patient triage, and health information delivery [1-4]. Recent advances in large language models and generative AI systems, such as ChatGPT and other publicly accessible platforms, have substantially increased the availability of AI-generated medical information to the general public [3,4]. Parents can now obtain health-related advice, symptom interpretations, and treatment recommendations within seconds, often without direct consultation with healthcare professionals. While this increased accessibility may enhance health literacy and facilitate informed decision-making, it may also influence perceptions of

medical expertise and alter patterns of healthcare-seeking behavior [5-7].

Pediatric healthcare represents a particularly important context in which to examine the impact of AI. Unlike adult health decisions, pediatric care involves surrogate decision-making by parents or guardians, who must frequently interpret symptoms, determine the urgency of medical evaluation, and navigate uncertainty regarding their child's well-being. Consequently, trust plays a central role in pediatric healthcare interactions. Historically, pediatricians have served as the primary and most trusted source of medical information for parents because of their professional training, clinical experience, and ability to integrate medical findings with individual patient circumstances. However, the increasing availability of AI-generated health information introduces an additional source of advice that may complement or potentially challenge traditional physician-parent relationships. Recent studies have demonstrated increasing parental interest in AI applications in pediatric healthcare, while simultaneously highlighting concerns regarding safety, reliability, and human oversight [1,2].

Trust is a critical determinant of technology acceptance in healthcare. Previous studies have demonstrated that individuals are more likely to adopt health technologies when they perceive them as useful, reliable, and beneficial [8,9]. Nevertheless, trust in AI remains influenced by concerns regarding accuracy, accountability, transparency, patient safety, and the inability of AI systems to perform physical examinations or fully understand contextual clinical factors [5,10]. Although AI has demonstrated diagnostic capabilities approaching or exceeding human performance in selected domains, many patients continue to prefer physician oversight, especially when healthcare decisions involve uncertainty or potentially serious consequences [10-14].

This study aimed to assess parental trust in AI and pediatricians, evaluate diagnostic preferences when AI recommendations conflict with pediatrician assessments, and examine intended healthcare-seeking behaviors among parents in Saudi Arabia. Additionally, the study sought to identify factors associated with greater reliance on AI-generated recommendations during situations of diagnostic disagreement.

Materials And Methods

Study design and setting

This cross-sectional online survey was conducted to evaluate parental trust in artificial intelligence, diagnostic preferences when AI recommendations conflict with pediatrician assessments, and intended healthcare-seeking behaviors in pediatric care. The study targeted parents residing in Saudi Arabia and was conducted from April 2025 to July 2025. The survey was administered electronically through a secure online platform, allowing participation from all regions of the country. The study was approved by the Standing Committee for Sabbatical Leaves, Publication and Research Ethics, Kingdom of Saudi Arabia, Ministry of Health (approval no. 2024-17740).

Study population and sampling

The study population consisted of parents or legal guardians of children aged 18 years or younger residing in Saudi Arabia. Eligibility criteria used for participant selection are presented in Table *1*.

Category	Criterion
Inclusion	Parent or legal guardian of a child aged ≤18 years
	Residing in Saudi Arabia
	Aged 18 years or older
	Able to read Arabic or English
	Provided electronic informed consent before participation
Exclusion	Not a parent or legal guardian
	Residing outside Saudi Arabia
	Submitted an incomplete questionnaire

TABLE 1: Inclusion and exclusion criteria for study participation

Eligibility criteria used to determine participation in this cross-sectional survey of parents residing in Saudi Arabia. Participants were included if they met all inclusion criteria and excluded if they met any exclusion criterion.

A non-probability convenience sampling approach was employed. Participants were recruited through social media platforms widely used in Saudi Arabia, including X (formerly Twitter), WhatsApp, Telegram, and Snapchat. The survey link was distributed together with a brief description of the study objectives and eligibility criteria. Participation was voluntary, and no incentives were offered.

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Sample size calculation

The minimum sample size was calculated using the standard formula for estimating a single population proportion in cross-sectional studies. Because no previous Saudi studies had evaluated parental trust in AI-assisted pediatric healthcare, the anticipated prevalence was conservatively estimated at 50%, which provides the largest required sample size. Using a 95% confidence level and a margin of error of 5%, the minimum required sample size was calculated to be 384 participants. Recruitment continued beyond this minimum to compensate for incomplete responses and to increase statistical precision.

Study instrument

Data were collected using a structured self-administered questionnaire developed following a review of the literature on artificial intelligence in healthcare, technology acceptance, physician trust, and healthcare-seeking behavior. The questionnaire collected information on participant demographics, familiarity with AI technologies, previous AI use, trust in AI, trust in pediatricians, and intended healthcare-seeking behaviors (Appendix).

A scenario-based approach was incorporated to simulate a realistic clinical situation. Participants were presented with a hypothetical case in which a pediatrician diagnosed a viral respiratory illness while an AI tool suggested bacterial pneumonia requiring urgent evaluation. Participants were subsequently asked to indicate which source they would trust and how they would respond to the disagreement. Trust-related items were assessed using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5), with higher scores indicating greater levels of trust.

Pilot testing and validation

Face validity and content validity were established through review by experts in pediatrics, medical informatics, and clinical research methodology. A pilot study involving 20 parents was conducted to evaluate questionnaire clarity, readability, and completion time. Minor modifications were made based on participant feedback. Responses from pilot participants were excluded from the final analysis. The AI trust domain demonstrated good internal consistency (Cronbach's $\alpha = 0.83$), while the pediatrician trust domain demonstrated excellent internal consistency (Cronbach's $\alpha = 0.88$).

Study variables

The primary outcome was parental diagnostic preference during disagreement between AI and a pediatrician. Secondary outcomes included trust in AI, trust in pediatricians, intended healthcare-seeking behaviors following disagreement, and willingness to use AI in future pediatric healthcare decisions.

Independent variables included age, gender, educational level, number of children, familiarity with AI technologies, frequency of AI use, previous use of AI for child-health information, and recent healthcare utilization.

Statistical analysis

Data were analyzed using IBM SPSS Statistics for Windows, Version 27 (Released 2020; IBM Corp., Armonk, New York, United States). Descriptive statistics were used to summarize participant characteristics and questionnaire responses. Categorical variables were reported as frequencies and percentages, while continuous variables were presented as means and standard deviations.

Associations between participant characteristics and diagnostic preference were evaluated using chi-square tests, Fisher's exact tests, and independent-samples t-tests as appropriate. Variables demonstrating statistical significance in univariable analyses, together with clinically relevant variables, were entered into a multivariable logistic regression model to identify independent predictors of preference for AI recommendations. Adjusted odds ratios (aORs) and 95% confidence intervals (CIs) were calculated. A two-sided p-value of less than 0.05 was considered statistically significant.

Results

Participant characteristics

A total of 420 parents completed the survey and were included in the final analysis. The largest age group was 35-44 years (n=180, 42.9%), followed by 25-34 years (n=156, 37.1%), 45-54 years (n=48, 11.4%), 18-24 years (n=28, 6.7%), and ⩾55 years (n=8, 1.9%). Female participants accounted for 232 (55.2%) respondents, while 188 (44.8%) were male subjects (Table 2).

Characteristic		n	%
Age Group	18-24 years	28	6.7
	25-34 years	156	37.1
	35-44 years	180	42.9
	45-54 years	48	11.4
	≥55 years	8	1.9
Gender	Male	188	44.8
	Female	232	55.2
Education Level	Secondary school or less	72	17.1
	Diploma	69	16.4
	Bachelor's degree	230	54.8
	Postgraduate degree	49	11.7
Number of Children	1	94	22.4
	2	139	33.1
	3	112	26.7
	≥4	75	17.8
Child required medical care in previous year		341	81.2

TABLE 2: Sociodemographic characteristics of participating parents (N=420)

Data are presented as frequencies (n) and percentages (%). Percentages may not total exactly 100% because of rounding. Recent healthcare utilization refers to at least one child requiring medical care within the preceding 12 months.

Regarding educational attainment, 230 (54.8%) participants held a bachelor's degree, 49 (11.7%) held postgraduate qualifications, 69 (16.4%) had a diploma, and 72 (17.1%) had secondary school education or less. The number of children per household was one child in 94 (22.4%) participants, two children in 139 (33.1%), three children in 112 (26.7%), and four or more children in 75 (17.8%). A history of healthcare utilization within the preceding 12 months was reported by 341 (81.2%) parents.

Familiarity and use of AI

Most respondents were familiar with AI technologies (n=346, 82.4%), whereas 74 (17.6%) reported no prior familiarity. Previous use of AI tools was reported by 298 (71.0%) participants. Furthermore, 176 (41.9%) parents indicated that they had previously used AI tools to obtain health-related information regarding their child, while 244 (58.1%) had not (Table 3).

Variable		n	%
Familiar with AI tools		346	82.4
Previously used AI tools		298	71.0
Used AI for child's health information		176	41.9
Frequency of AI Use	Never	74	17.6
	Rarely	84	20.0
	Sometimes	138	32.9
	Often	92	21.9
	Very Often	32	7.6

TABLE 3: Familiarity with and utilization of artificial intelligence technologies among study participants (N=420)

Data are presented as frequencies (n) and percentages (%). Artificial intelligence (AI) technologies include generative AI platforms, chatbots, virtual assistants, and online symptom checker tools. Previous use for child-health information refers to any use of AI to obtain medical information related to a participant's child.

Regarding frequency of AI use, 138 (32.9%) participants reported using AI sometimes, 92 (21.9%) often, 32 (7.6%) very often, 84 (20.0%) rarely, and 74 (17.6%) never. Collectively, 262 (62.4%) participants reported at least occasional use of AI technologies.

Trust in AI and pediatricians

Overall, participants demonstrated a favorable perception of the potential utility of AI in pediatric healthcare. A total of 314 (74.8%) respondents agreed or strongly agreed that AI can provide useful information regarding children's health, while 278 (66.2%) agreed that AI could assist parents in determining when medical attention is required (Table 4).

Statement	Agree/Strongly Agree n (%)
AI can provide useful information about children's health	314 (74.8)
AI can support parents in deciding when medical attention is needed	278 (66.2)
AI recommendations are generally trustworthy	171 (40.7)
AI is as reliable as a pediatrician for routine questions	114 (27.1)
I feel comfortable following AI recommendations for my child	122 (29.0)
Pediatricians provide accurate diagnoses	392 (93.3)
Pediatricians are better than AI at understanding a child's condition	381 (90.7)
Human clinical judgment is more important than AI advice	369 (87.9)
I would follow a pediatrician's recommendation despite conflicting online information	353 (84.0)

TABLE 4: Parental trust in artificial intelligence and pediatricians in pediatric healthcare

Data are presented as the number and percentage of participants who selected “Agree” or “Strongly Agree” for each statement. Mean trust scores are reported as mean ± standard deviation (SD) and were calculated from responses using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater trust.

Despite these favorable perceptions, confidence in AI was substantially lower than confidence in pediatricians. Only 171 (40.7%) participants agreed that AI recommendations are generally trustworthy, 122 (29.0%) reported feeling comfortable following AI-generated healthcare recommendations for their child, and 114 (27.1%) believed that AI is as reliable as a pediatrician for routine pediatric health concerns.

Trust in pediatricians was consistently high across all survey items. Most respondents agreed that pediatricians provide accurate diagnoses (n=392, 93.3%) and are better than AI at understanding a child's condition (n=381, 90.7%). Similarly, 369 (87.9%) participants agreed that human clinical judgment is more important than AI-generated advice, and 353 (84.0%) reported that they would follow a pediatrician's recommendation even when confronted with conflicting online information.

The mean trust in AI score was 3.21 ± 0.76, whereas the mean trust in pediatrician score was 4.42 ± 0.51, indicating substantially greater trust in pediatricians than in AI-based healthcare tools.

Diagnostic preference during AI-pediatrician disagreement

When presented with a hypothetical clinical scenario in which an AI tool suggested bacterial pneumonia while a pediatrician diagnosed a viral respiratory infection, most participants expressed greater trust in the pediatrician. Specifically, 198 (47.1%) respondents reported that they would definitely trust the pediatrician, while 123 (29.3%) would probably trust the pediatrician. In contrast, only 28 (6.7%) participants would probably trust the AI system and nine (2.1%) would definitely trust the AI system. Equal trust in both sources was reported by 62 (14.8%) respondents (Table 5).

Response		n	%
Definitely trust pediatrician		198	47.1
Probably trust pediatrician		123	29.3
Trust both equally		62	14.8
Probably trust AI		28	6.7
Definitely trust AI		9	2.1
Action	Follow pediatrician advice	173	41.2
	Follow AI recommendation	18	4.3
	Seek second pediatric opinion	174	41.4
	Visit emergency department	34	8.1
	Search online for more information	21	5.0

TABLE 5: Parental diagnostic preferences and intended healthcare-seeking behaviors during disagreement between artificial intelligence and pediatricians (N=420)

Data are presented as frequencies (n) and percentages (%). Responses were based on a hypothetical clinical scenario in which an artificial intelligence system provided a diagnosis that differed from a pediatrician's assessment. Participants were asked to indicate both their preferred source of information and their intended healthcare-seeking behavior.

When asked about their intended actions following such a disagreement, 174 (41.4%) participants reported that they would seek a second pediatric opinion, while 173 (41.2%) would follow the original pediatrician's recommendation. Only 18 (4.3%) respondents indicated that they would directly follow the AI recommendation. Additionally, 34 (8.1%) would visit an emergency department and 21 (5.0%) would seek further information online before making a decision.

Factors associated with preference for AI recommendations

Multivariable logistic regression analysis was performed to identify factors associated with preference for AI recommendations when AI and pediatricians provided conflicting diagnostic advice (Table 6).

Variable	χ^2	df	Effect Size (φ/Cramer's V)	Adjusted OR (95% CI)	p-value
Age <35 years	4.31	1	φ = 0.10	1.54 (0.91-2.62)	0.11
Female gender	0.38	1	φ = 0.03	1.18 (0.69-2.01)	0.54
Bachelor's degree or higher	6.47	1	φ = 0.12	1.79 (1.03-3.11)	0.038
Previous AI use for child health	17.92	1	φ = 0.21	2.93 (1.67-5.13)	<0.001
High AI trust score	28.44	1	φ = 0.31	4.82 (2.61-8.91)	<0.001
High pediatrician trust score	9.14	1	φ = 0.15	0.41 (0.23-0.74)	0.003

TABLE 6: Multivariable logistic regression analysis of factors associated with preference for artificial intelligence recommendations during diagnostic disagreement

Multivariable logistic regression analysis of factors associated with preference for artificial intelligence recommendations during diagnostic disagreement. Univariable associations were evaluated using Pearson's chi-square tests and are reported as chi-square statistics (χ^2), degrees of freedom (df), and effect sizes (Phi coefficient, φ). Results of multivariable analysis are presented as adjusted odds ratios (aORs) with corresponding 95% confidence intervals (CIs). Statistical significance was defined as $p<0.05$.

Previous use of AI for obtaining child-health information was significantly associated with increased odds of preferring AI recommendations (aOR=2.93, 95% CI: 1.67-5.13, p<0.001). Likewise, participants with higher trust in AI scores demonstrated substantially greater odds of favoring AI-generated recommendations over pediatrician advice (aOR=4.82, 95% CI: 2.61-8.91, p<0.001).

In contrast, higher trust in pediatrician scores was associated with significantly reduced odds of preferring AI recommendations (aOR=0.41, 95% CI: 0.23-0.74, p=0.003). Participants with a bachelor's degree or higher were more likely to prefer AI recommendations than those with lower educational attainment (aOR=1.79, 95% CI: 1.03-3.11, p=0.038). Although younger participants (<35 years) demonstrated a trend toward greater preference for AI recommendations (aOR=1.54, 95% CI: 0.91-2.62, p=0.11), this association did not reach statistical significance. Similarly, no significant association was observed between gender and preference for AI recommendations (aOR=1.18, 95% CI: 0.69-2.01, p=0.54).

Overall, these findings indicate that although awareness and use of AI technologies were common among Saudi parents, trust in pediatricians remained substantially higher. In scenarios involving diagnostic disagreement, most participants either favored the pediatrician's opinion (n=321, 76.4%) or sought an additional professional opinion (n=174, 41.4%), whereas relatively few preferred to rely solely on AI-generated recommendations (n=37, 8.8%).

Discussion

Principal findings

This study evaluated parental trust in artificial intelligence, diagnostic preferences during situations of disagreement between AI and pediatricians, and intended healthcare-seeking behaviors among parents in Saudi Arabia. The findings demonstrated that although awareness and use of AI technologies were common, trust in pediatricians remained substantially higher than trust in AI systems. While most participants recognized the potential value of AI as a source of health information, the majority preferred pediatricians when confronted with conflicting recommendations and were more likely to seek an additional medical opinion than rely exclusively on AI-generated advice.

Most participants were familiar with AI technologies (346/420, 82.4%), and a substantial proportion had previously used AI tools (298/420, 71.0%). Nevertheless, trust in pediatricians greatly exceeded trust in AI, as reflected by the higher mean trust score for pediatricians (4.42 ± 0.51) compared with AI (3.21 ± 0.76). When participants were presented with a scenario involving disagreement between AI and a pediatrician, more than three-quarters (321/420, 76.4%) favored the pediatrician's assessment, whereas only 37/420 (8.8%) favored AI recommendations. These findings suggest that parents currently perceive AI as a supplementary source of information rather than a replacement for physician expertise in pediatric care.

Comparison with existing literature

The widespread familiarity with AI observed in this study likely reflects the rapid integration of generative AI tools into everyday life and the increasing accessibility of online health information [1-4]. However, despite this familiarity, participants expressed considerably greater trust in pediatricians than in AI systems. More than 90% of respondents believed that pediatricians provide accurate diagnoses and are better able to

understand a child's condition than AI. Similar findings have been reported in previous studies demonstrating that parents generally view AI as a supportive tool while continuing to prefer physician oversight for healthcare decision-making [5-7].

Several factors may explain this preference. Pediatric healthcare often involves nuanced decision-making that extends beyond symptom interpretation alone. Parents may value the physician's ability to perform physical examinations, consider contextual factors, provide reassurance, and establish therapeutic relationships. These elements remain difficult for current AI systems to replicate. Furthermore, healthcare decisions involving children are frequently associated with heightened emotional concerns and perceived risk, which may further increase reliance on trained healthcare professionals. Previous studies examining parental attitudes toward AI in pediatric healthcare have similarly identified concerns regarding the absence of human judgment, empathy, and accountability in AI-assisted care [6,7].

Interestingly, while only approximately one-quarter of participants considered AI to be as reliable as a pediatrician, nearly three-quarters believed that AI could provide useful health information. This apparent discrepancy suggests that parents may differentiate between obtaining information and making clinical decisions. In other words, AI may be viewed as a useful educational resource while final diagnostic and management decisions remain the domain of healthcare professionals. This observation is consistent with prior research demonstrating moderate acceptance of AI for information gathering but greater reluctance to rely on AI for independent medical decision-making [5,6].

One of the most important findings of this study was how parents responded when AI and pediatrician recommendations conflicted. Although most participants trusted the pediatrician, very few reported that they would simply disregard the AI recommendation. Instead, the most common response was to seek a second pediatric opinion (174/420, 41.4%), followed closely by following the original pediatrician's advice (173/420, 41.2%). This finding suggests that while AI-generated recommendations may influence parental perceptions and prompt additional healthcare-seeking behavior, physician judgment remains the dominant determinant of clinical decision-making, consistent with previous reports on public attitudes toward medical AI technologies [15-18].

Strengths and limitations

This study has several strengths. To our knowledge, it is among the first studies in Saudi Arabia to specifically examine parental trust and healthcare-seeking behavior in the context of disagreement between AI systems and pediatricians. The inclusion of a scenario-based assessment allowed exploration of realistic decision-making rather than solely measuring attitudes toward AI. Additionally, the sample size exceeded the minimum calculated requirement, providing adequate statistical power for the analyses performed.

Several limitations should also be acknowledged. First, the cross-sectional design precludes conclusions regarding causality. Second, the use of convenience sampling and online recruitment may limit generalizability to all parents in Saudi Arabia. Third, responses were based on hypothetical scenarios rather than real clinical encounters and may not fully reflect actual behavior when a child is ill. Fourth, self-reported attitudes are subject to recall bias and social desirability bias. Finally, perceptions of AI are evolving rapidly; therefore, attitudes observed during the study period may change as AI technologies become more sophisticated and more widely integrated into healthcare.

Conclusions

Although Saudi parents are highly familiar with and increasingly utilize AI technologies, pediatricians remain the most trusted source of healthcare advice for their children. Parents generally perceived AI as a useful tool for obtaining health information and supporting decision-making; however, they were considerably less willing to rely on AI when making clinical decisions involving their child's health. When faced with disagreement between AI-generated recommendations and pediatrician assessments, most parents favored the physician's opinion or sought an additional professional consultation rather than following AI advice alone. Furthermore, previous experience with AI and higher levels of trust in AI were associated with greater acceptance of AI recommendations, whereas strong trust in pediatricians remained a key factor influencing parental decision-making. These findings suggest that, at present, parents view AI as a complementary resource that can enhance access to health information but not replace the expertise, clinical judgment, and reassurance provided by pediatricians. As AI becomes increasingly integrated into healthcare, successful implementation strategies should emphasize collaborative models in which AI supports, rather than substitutes for, physician-led care, thereby maintaining parental trust while leveraging the benefits of emerging technologies to improve pediatric healthcare delivery.

Appendices

Domain	Survey item	Response options
Eligibility	Are you a parent or legal guardian of a	Yes; No

	child aged ≤18 years?	
Demographics	Age	18-24 years; 25-34 years; 35-44 years; 45-54 years; ≥55 years
	Gender	Male; Female; Prefer not to say
	Education level	Secondary school or less; Diploma; Bachelor's degree; Postgraduate degree
	Number of children	1; 2; 3; ≥4
	Child required medical care during previous 12 months	Yes; No
AI familiarity	Familiar with AI tools	Yes; No
	Frequency of AI use	Never; Rarely; Sometimes; Often; Very often
	Previously used AI for child-health information	Yes; No
Trust in AI	AI can provide useful information about children's health	5-point Likert scale*
	AI can accurately explain common childhood illnesses	5-point Likert scale*
	AI can help determine when medical attention is needed	5-point Likert scale*
	AI is as reliable as a pediatrician for routine health concerns	5-point Likert scale*
	AI recommendations are generally trustworthy	5-point Likert scale*
	I would feel comfortable following AI-generated recommendations	5-point Likert scale*
	AI could improve access to pediatric healthcare	5-point Likert scale*
	AI may make dangerous mistakes in pediatric healthcare	5-point Likert scale*
Trust in pediatricians	Pediatricians provide accurate diagnoses	5-point Likert scale*
	Pediatricians are better than AI at understanding a child's condition	5-point Likert scale*
	I feel reassured when a pediatrician evaluates my child	5-point Likert scale*
	I would follow a pediatrician's recommendation despite conflicting information	5-point Likert scale*
	Human clinical judgment is more important than AI-generated advice	5-point Likert scale*
Diagnostic disagreement scenario	Trust preference when AI and pediatrician disagree	Definitely pediatrician; Probably pediatrician; Both equally; Probably AI; Definitely AI
	Intended action following disagreement	Follow pediatrician advice; Follow AI recommendation; Seek second pediatric opinion; Visit emergency department; Search for more information online
	I would seek another medical opinion if AI disagreed with a pediatrician	5-point Likert scale*
	AI-pediatrician disagreement would reduce my confidence in the pediatrician	5-point Likert scale*
	AI-pediatrician disagreement would increase anxiety about my child's	

	health	5-point Likert scale*
	I would use AI again for future pediatric healthcare decisions	5-point Likert scale*
Healthcare-seeking behavior	AI recommendations could influence visiting a physician	5-point Likert scale*
	AI recommendations could influence visiting an emergency department	5-point Likert scale*
	I would verify AI advice with a healthcare professional before acting on it	5-point Likert scale*
	AI should be used only as a supplement to pediatric care	5-point Likert scale*
	AI should be incorporated into pediatric healthcare settings	5-point Likert scale*
Decision-making preference	Preferred healthcare decision-maker	Parent alone; AI alone; Pediatrician alone; Parent and pediatrician together; Parent, AI, and pediatrician together

TABLE 7: Survey questionnaire and response options

Survey instrument used to assess parental trust in artificial intelligence, trust in pediatricians, diagnostic preferences during AI-pediatrician disagreement, and intended healthcare-seeking behaviors among parents in Saudi Arabia.

*Likert scale: Strongly disagree (1), Disagree (2), Neutral (3), Agree (4), Strongly agree (5).

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

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Disclosures

Human subjects: Informed consent for treatment and open access publication was obtained or waived by all participants in this study. Ethics Committee, Kingdom of Saudi Arabia, Ministry of Health issued approval 2024-17740. **Animal subjects:** All authors have confirmed that this study did not involve animal subjects or tissue. **AI use statement:** The authors used Copilot as follows: language polishing in Language and grammar proofreading throughout the manuscript. AI was used solely for proofreading, grammar correction, and improving sentence clarity and readability. All scientific content, arguments, data, analysis, interpretations, and references were independently developed, reviewed, and verified by the authors. The authors retain full responsibility for the accuracy and integrity of the manuscript. The authors confirm that they have reviewed and verified all AI-assisted content and take full responsibility for the work. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

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