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ARTIFICIAL INTELLIGENCE IN PARENTAL INFORMATION-SEEKING ABOUT CHILD HEALTH AND DEVELOPMENT

VJEŠTAČKA INTELIGENCIJA U RODITELJSKOM INFORMISANJU O ZDRAVLJU I RAZVOJU DJECE

Ajla Mahmutović Babić[1*], Mirela Duranović[2], Ivana Lovrić[3], Ana Mari Petrović[3], Ana Madžar Čančar[4]

[1]Public Center for Social Work Cazin, Bosnia and Herzegovina,
[2]Faculty of Education and Rehabilitation, University of Tuzla, Bosnia and Herzegovina,
[3]Faculty of Humanities and Social Sciences, University of Mostar, Bosnia and Herzegovina,
[4]Faculty of Medicine Foča, Bosnia and Herzegovina

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ABSTRACT

The aim of this study was to examine the extent to which parents use artificial intelligence (AI) as a source of information about child health and development, as well as to analyze the influence of age and educational level on the frequency of AI use. A cross-sectional study was conducted on a sample of 400 parents using a structured electronic questionnaire. The study analyzed the frequency of AI use, trust in AI and experts, and the association between demographic characteristics and the use of digital information sources. Overall, 52.5% of parents reported using AI tools to obtain information about child development. Younger parents and those with higher levels of education used these tools significantly more often. Parents with higher education had a fourteen-fold higher likelihood of using AI compared to respondents with only primary education. Most parents expressed moderate to high trust in AI, but at the same time, 83.8% believed that AI cannot replace professionals. The findings indicate that AI is becoming an important source of information among parents, particularly among younger and highly educated individuals. Based on the obtained results regarding parents' attitudes toward AI technologies, these tools have potential as a supplementary resource for initial information seeking; however, professional judgment remains irreplaceable. The data provided by parents also highlight the need for the development of medically validated and regulated AI tools, as well as education on their safe and responsible use.

Key words: artificial intelligence, parents, education, trust, digital information-seeking.

[*] Correspondence author: Ajla Mahmutović Babić, Public Center for Social Work Cazin
E-mail: ajla_mahmutovic@outlook.com

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SAŽETAK

Cilj ovog istraživanja bio je ispitati u kojoj mjeri roditelji koriste vještačku inteligenciju (AI) kao izvor informacija o zdravlju i razvoju djece te analizirati utjecaj dobi i obrazovanja na učestalost korištenja AI alata. Provedena je presječna studija na uzorku od 400 roditelja putem strukturiranog elektronskog upitnika. Analizirani su učestalost korištenja AI, povjerenje u AI i stručnjake te povezanost demografskih karakteristika s korištenjem digitalnih izvora informacija. Ukupno 52,5% roditelja koristi AI alate za informisanje o razvoju djece. Mlađi roditelji i oni s višim nivoom obrazovanja značajno češće koriste. Visokoobrazovani roditelji imali su 14 puta veću vjerovatnost korištenja AI u odnosu na ispitanike s osnovnom školom. Većina roditelja iskazuje umjereno do visoko povjerenje u AI ali istovremeno 83,8% smatra da AI ne može zamijeniti stručnjake. Rezultati pokazuju da AI postaje važan izvor informacija među roditeljima, posebno među mlađim i visokoobrazovanim. Prema dobivenom rezultatima o stavovima roditelja prema AI tehnologijama, one imaju potencijal kao dopunski alat za inicijalno informisanje, ali stručno mišljenje ostaje nezamjenjivo. Podaci koje smo dobili od roditelja ukazuju na potrebu razvoja medicinski validiranih i regulisanih AI alata te edukacije o njihovoj sigurnoj i odgovornoj upotrebi.

Ključne riječi: vještačka inteligencija, roditelji, obrazovanje, povjerenje, digitalno informisanje.

INTRODUCTION

The digitalization of contemporary society has significantly changed the ways in which parents access information about child health and development. The Internet, mobile applications, and social media have become common sources for quickly searching symptoms, developmental stages, and advice on early identification of difficulties (Jaks et al., 2019; Smith et al., 2025). These digital sources allow parents to obtain information rapidly, often even before consulting a pediatrician or other professional, which can have a positive impact on timely help-seeking (Smith et al., 2025).

In recent years, tools based on artificial intelligence (AI) have increasingly taken a role in parental information-seeking. AI systems provide personalized responses and synthesized information from various medical sources, guidelines, and scientific literature (Ashraf, 2024; Park et al., 2025). Parents use them to assess developmental trajectories, identify potential deviations, make decisions about the need for professional evaluation, and obtain general advice on child-rearing and care (Montejo et al., 2024; Ho et al., 2025). The availability of AI tools is particularly important in situations where access to professionals is limited, providing parents with a sense of security and reducing anxiety (Chen, 2023; Yuan et al., 2025).

However, there are significant challenges associated with these technologies. AI models can generate convincing but incorrect or insufficiently verified information ("AI hallucinations"), which may lead to misjudgments and delays in seeking professional help (Tun et al., 2025; Park et al., 2025). Parents, especially those with lower levels of education or digital literacy, may have difficulty evaluating the accuracy of such content (Ashraf, 2024). Therefore, the

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literature emphasizes the need for critical use of AI tools and clear boundaries between digital advice and professional assessment (Berghea et al., 2024).

Previous research shows that demographic characteristics, particularly age and education level, significantly influence the way digital health information sources are used (Ashraf, 2024; Lee et al., 2025). Younger parents and those with higher education more frequently use AI and digital platforms in general, whereas traditional sources, such as pediatricians and family, remain dominant among lower-educated groups (Berghea et al., 2024).

In Bosnia and Herzegovina, as well as in the wider region, no published studies have examined patterns of AI tool use among parents or the influence of demographic factors on these patterns. This gap is particularly relevant given the increasing availability of AI technologies and changes in parents' digital habits.

Accordingly, the aim of this study is to assess the extent to which parents in Bosnia and Herzegovina use AI as a source of information about their child's development and health status, to examine the association between parents' age and education and AI use, and to identify which AI tools are most frequently used and for what purposes.

MATERIALS AND METHODS

Participants

A total of 400 parents who reported having at least one child aged 0–18 years and who provided informed consent to participate were included in the study. The study was conducted in September and October 2025. Participants were recruited via social media, parent associations, and non-governmental organizations. The inclusion criteria were: being a parent of a child aged up to 18 years, active involvement in the child's upbringing, and provision of informed consent.The largest proportion of respondents belonged to the 20–29 age group (35%), followed by the 30–39 age group (28.7%), those older than 40 years (23.5%), and those younger than 20 years (12.8%). The majority of participants were female (63.5%). The largest proportion of parents had higher education (44.5%), followed by secondary education (42.5%) and primary education (13%). According to the age of the youngest child, the largest group of respondents had children aged 1–3 years (36.8%), followed by 7–10 years (23.5%), 4–6 years (22.8%), under 1 year (15.3%), and older than 10 years (1.7%).

Study Design and Procedures

For the purpose of this study, an electronic questionnaire specifically designed for the research was used. The questionnaire consisted of 15 questions divided into four main sections: demographic information, information about the child, and parents' habits and attitudes related to the use of artificial intelligence. The questionnaire was distributed through online platforms and was available to parents for a period of two months. By providing consent at the beginning of the questionnaire, respondents confirmed that they understood the purpose of the study and that their responses would remain anonymous. The collected data were coded and transferred into a format suitable for analysis. To ensure data protection, participants' names and contact information were not recorded.

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Instruments/Measures

Before the development of the questionnaire, a focus group with parents (n = 10) was conducted in order to identify the key thematic areas relevant to the study. During the focus group, patterns of information-seeking regarding children's health and development, perceptions and attitudes toward artificial intelligence, the level of trust in digital information sources, as well as parents' specific informational needs were explored. The qualitative insights obtained served as the basis for defining the structure of the questionnaire and formulating individual items.

The questionnaire was designed as a structured instrument and consisted of four thematic sections:

a)Sociodemographic characteristics of parents

This section included questions regarding the parent's sex, age, highest level of completed education, and marital status. The questions were of a closed type with predefined answer options (multiple-choice).

b)Information about the child/children

This section included the following variables:

- age of the youngest child (with several predefined categories),
- information on whether the child had ever been diagnosed with a developmental or medical condition (e.g. speech and language delay, autism spectrum disorder, ADHD, epilepsy, chronic diseases, intellectual disabilities, etc.),
- information on whether the child had ever received inpatient hospital treatment (referring to situations where the child was hospitalized for treatment, surgery, or medical monitoring, excluding brief examinations or diagnostic procedures).

Responses to the last two questions were dichotomous (YES/NO).

c) Use of AI technologies

This section referred to patterns of artificial intelligence use for obtaining information about children's health and development and included the following questions:

- whether the respondents had ever used AI technologies for this purpose (YES/NO; in case of a negative answer, respondents were directed to the final section of the questionnaire),
- which AI tools they most frequently use (with multiple predefined options and the possibility of multiple responses),
- for which purposes they use AI technologies,
- frequency of use,

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- level of trust in the information obtained through AI tools.

Trust was measured using a Likert scale.

d) Parents' attitudes toward AI technologies

The final section examined parents' attitudes toward the role of AI in the field of children's health and development. Respondents indicated their level of agreement with the following statements:

- "AI tools may represent a useful supplement to professional assessment."
- "AI tools can contribute to the early identification of developmental delays."
- "AI tools cannot replace a professional."

Responses were measured using a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Statistical Analysis

Descriptive statistics were used to present the frequency and relative proportions of participants according to age groups and education level. To examine the association between AI use and participants' age and education, the Chi-square test of independence was applied. The strength of the association was assessed using Cramer's V coefficient, while the relative odds of AI use in specific groups were quantified using the Odds Ratio (OR) with a 95% confidence interval. A p-value less than 0.05 was considered statistically significant. All collected data were processed using Microsoft Excel and the statistical software SPSS.

RESULTS AND DISCUSSION

Statistical analysis showed that 52.5% of respondents use AI tools to obtain information about children's health and development. The fact that more than half of the participants use AI suggests that generative technologies are becoming an integral part of parental information practices, which is in line with global trends indicating an increasing use of AI in healthcare contexts (Park et al., 2025). Based on the results presented in Figure 1, ChatGPT emerged as the dominant tool, used by 95.5% of parents who reported using AI. This clearly indicates the high recognizability and accessibility of this tool, as well as a strong tendency among parents to rely on a single platform, which may pose certain risks related to the quality and variability of the information provided.

The results shown in Figure 2 indicate that parents most frequently used AI to help decide whether to seek professional help (56.3%), which confirms the role of AI tools as a first step in the process of assessing concern for their child's condition. Such a pattern of use is consistent with the literature, which suggests that AI can reduce parental uncertainty and accelerate decision-making when professional support is not immediately available (Ho et al., 2025).

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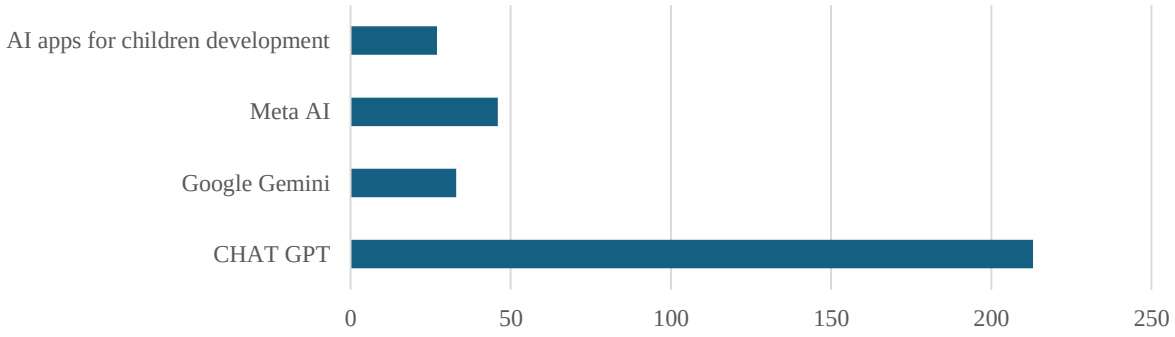
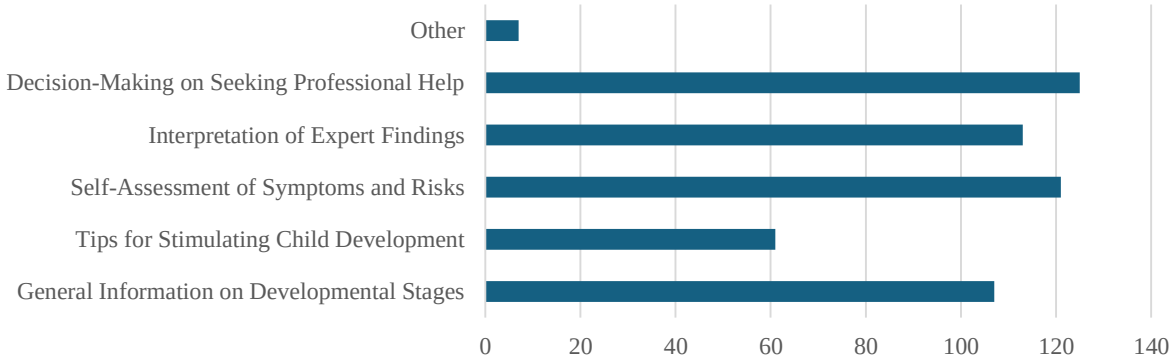
Figure 1 Most Frequently Used AI Tools by Parents



	CHAT GPT	Google Gemini	Meta AI	AI apps for children development
Skup 1	213	33	46	27

Figure 2 Main Purpose of AI Use by Parents



	General Information on Developmental Stages	Tips for Stimulating Child Development	Self-Assessment of Symptoms and Risks	Interpretation of Expert Findings	Decision-Making on Seeking Professional Help	Other
Info	107	61	121	113	125	7

The majority of participants reported using AI tools at least once a month (37.7%), several times per week (25.6%), and daily (7.2%), while 29.6% of parents reported using AI tools rarely. These data indicate that AI currently serves primarily as a supplementary rather than a primary source of information, which is consistent with previous literature (Jaks et al., 2019; Park et al., 2025).

Regarding trust in AI technologies among users, the median response was 4, indicating that most participants trust AI tools. A more detailed distribution shows that 2.7% of participants do not trust AI at all, 4.4% trust it very little, 30.1% partially, 48.7% considerably, and 14.2% fully trust AI technologies.

Parents generally consider that AI tools can help in recognizing developmental delays (median = 4), with 28% agreeing and 22.5% fully agreeing with this statement. Simultaneously, most parents either fully agree (69.3%) or agree (14.5%) that AI cannot replace professionals, while only a small proportion of participants are skeptical of this claim

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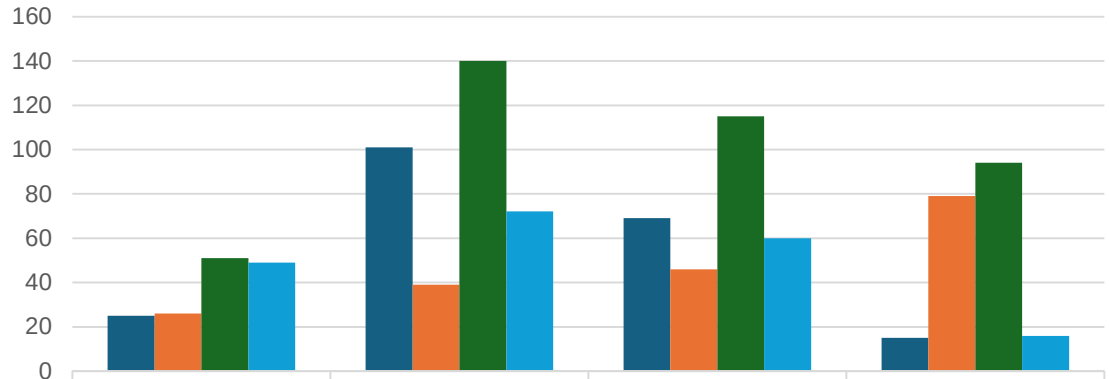
(2–2.8%). These findings support previous research indicating that parents view AI as a complement rather than a substitute for professionals (Tun et al., 2025; Simms, 2025).

Analysis of the association between age and AI usage revealed clear differences. In the under-20 age group, 49% of participants used AI; in the 20–29 group, 72.1%; in the 30–39 group, 60%; and among those over 40, only 15.9% used AI. The Chi-square test showed a statistically significant difference among age groups ($\chi^2 = 74.86$, $p < 0.0001$), while Cramer's V ($V = 0.433$) indicates a moderate association. Odds ratio analysis shows that participants aged 20–29 are 2.7 times more likely to use AI compared to the under-20 group, whereas those aged 30–39 are 1.56 times more likely. Participants over 40 are significantly less likely to use AI (OR = 0.20). These findings suggest that younger generations, who grew up with digital technologies, are more likely to perceive AI as useful and accessible, consistent with the literature (Yuan et al., 2025; Park et al., 2025).

Figure 3 AI Tool Use by Age



	<20	20–29	30–39	40+
YES	25	101	69	15
NO	26	39	46	79
Total	51	140	115	94
% YES	49	72,1	60	15,9

A similar analysis was conducted in relation to education level. The lowest frequency of AI usage was observed among participants with primary education (17.3%), while usage among those with secondary education was 40%, and among highly educated participants it was 74.7%. Statistical tests confirmed a significant association ($\chi^2 = 71.66$, $p < 0.0001$; Cramer's $V = 0.423$). Odds ratio analysis indicates that participants with secondary education are 3.2 times more likely to use AI compared to those with primary education, while highly educated participants are 14 times more likely to use AI. These results are consistent with previous research, which highlights that higher education levels and digital literacy strongly influence

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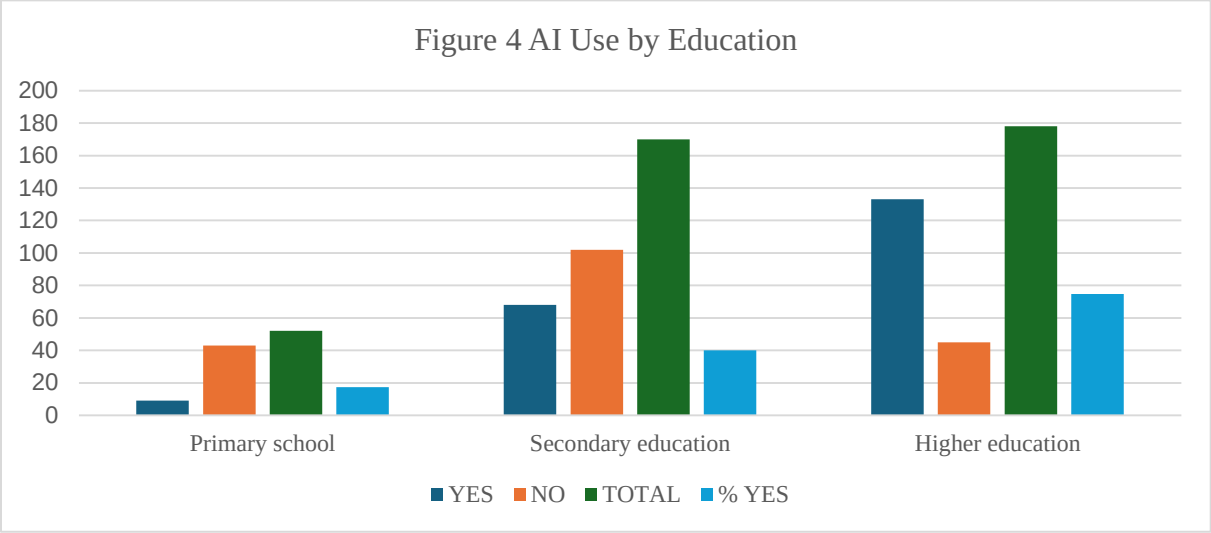
the adoption of AI technologies (Jaks et al., 2019; Tun et al., 2025).



The results of this study indicate the increasing integration of AI technologies into parents' everyday information-seeking practices. Although AI offers fast and personalized access to information, the findings confirm that parents recognize its limitations in the context of professional evaluation and medical advice, as highlighted in Ashraf, M. (2024). Most participants view AI as a supplementary tool, which aligns with recommendations from the professional literature (Montejo et al., 2024; Simms, 2025). AI can enhance parents' sense of security and reduce anxiety, particularly in situations where professional support is not immediately available (Yuan et al., 2025).

In conclusion, the results indicate that the use of AI among parents in Bosnia and Herzegovina is substantial, and that younger and highly educated parents are the most likely to use these technologies. AI primarily serves as a supplementary source of information, while professional assessment remains irreplaceable. Furthermore, the findings suggest that parents perceive AI as a tool that can increase the accessibility of information and facilitate decision-making, yet they use it cautiously, being aware of its limitations. 이러한 patterns of use highlight the need for further development of digital literacy and critical evaluation of information in the context of parenting.

CONCLUSION

This study demonstrates that the use of artificial intelligence is increasingly prevalent in parental information-seeking regarding children's health and development, with younger and highly educated parents using AI tools significantly more than other groups. Although parents express moderate to high trust in AI, most consider digital tools to have only a supplementary role and believe they cannot replace professional evaluation. The findings highlight the risk of relying on unverified AI responses when assessing potential developmental deviations, but they also underscore the potential of AI technologies to improve access to information when professional support is not immediately available.

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There is a need to develop medically validated, transparent, and regulated AI tools for parents, alongside educational programs to ensure their safe and responsible use. This study provides a foundation for further research on the application of AI technologies in pediatric and parental contexts.

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