

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

INTEGRATIVE LITERATURE REVIEW

DOI: 10.9789/2175-5361.rpcfo.v17.13925

KNOWLEDGE, ATTITUDES, AND PRACTICES OF PRIMARY HEALTH CARE PROFESSIONALS ON CHILD DEVELOPMENT: INTEGRATIVE REVIEW

Conhecimentos, atitudes e práticas de profissionais da atenção primária à saúde sobre desenvolvimento infantil: revisão integrativa

Conocimientos, actitudes y prácticas de profesionales de la atención primaria de salud sobre desarrollo infantil: revisión integrativa

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RESUMO

Objetivo: identificar os conhecimentos, atitudes e práticas dos profissionais da Atenção Primária à Saúde relacionados ao desenvolvimento infantil. **Método:** revisão integrativa da literatura de artigos publicados entre 2014 e 2024, com busca realizada em janeiro de 2025. **Resultados:** a partir da leitura na íntegra, 32 artigos foram incluídos e os resultados foram organizados nos temas: aspectos do desenvolvimento infantil avaliados na consulta da criança; vigilância do desenvolvimento infantil; uso de instrumentos para triagem do desenvolvimento; encaminhamento para intervenção precoce; e ações de educação em saúde aos cuidadores parentais. **Conclusão:** profissionais ainda carecem de conhecimento sólido sobre desenvolvimento infantil e uso de ferramentas de triagem. Esse achado sugere a necessidade de melhoria na formação, sensibilização e educação permanente para aprimorar as práticas clínicas no cuidado de crianças.

DESCRITORES: Desenvolvimento infantil; Cuidado da criança; Profissional de saúde; Atenção primária à saúde.

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Received: 2025/04/30. **Accepted:** 2025/06/26

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How to cite: Teixeira JH, Santos BP, Cordeiro ACS, Mello DF. Knowledge, attitudes, and practices of primary health care professionals on child development: integrative review. R Pesq Cuid Fundam (Online). [Internet]. 2025 [cited year month day];17:e13925. Available from: <https://doi.org/10.9789/2175-5361.rpcfo.v17.13925>.



ABSTRACT

Objective: to identify the knowledge, attitudes, and practices of primary health care professionals related to child development. **Method:** an integrative literature review was conducted on articles published between 2014 and 2024. The search was conducted in January 2025. **Results:** after reading the full texts, 32 articles were included. The results were organized into the following themes: Aspects of child development assessed during child health visits; Child development surveillance; Use of tools for development screening; Referral for early intervention; Health education actions directed at parental caregivers. **Conclusion:** health professionals still lack solid knowledge regarding child development and the use of screening tools. Conclusion: Health professionals still lack solid knowledge of child development and how to use screening tools. These results suggest the need for improved training, increased awareness, and continuing education to enhance clinical practices in child care.

DESCRIPTORS: Child development; Child care; Health professional; Primary health care.

RESUMEN

Objetivo: identificar los conocimientos, actitudes y prácticas de los profesionales de la Atención Primaria de Salud relacionados con el desarrollo infantil. **Método:** revisión integrativa de la literatura de artículos publicados entre 2014 y 2024, con búsqueda realizada en enero de 2025. **Resultados:** tras la lectura completa, se incluyeron 32 artículos, y los resultados se organizaron en los siguientes temas: aspectos del desarrollo infantil evaluados en la consulta pediátrica; vigilancia del desarrollo infantil; uso de herramientas de tamizaje del desarrollo; derivación para intervención temprana; y acciones de educación en salud dirigidas a los cuidadores parentales. **Conclusión:** los profesionales aún carecen de un conocimiento sólido sobre el desarrollo infantil y el uso de herramientas de tamizaje. Este hallazgo sugiere la necesidad de mejorar la formación, sensibilización y educación permanente para perfeccionar las prácticas clínicas en el cuidado infantil.

DESCRIPTORES: Desarrollo infantil; Cuidado del niño; Profesional de la salud; Atención primaria de salud.

INTRODUCTION

Child development encompasses the skills acquired as a child grows, including communication, socialization, and motor skills. This process is influenced by a child's interactions and the context in which they are raised.¹ Universal access to quality early childhood care and development is essential to achieving the Healthy Development Goals (SDGs).²

Through surveillance and screening, health professionals can identify developmental problems and delays early on. This enables them to provide appropriate interventions and minimize future damage.^{3,4} In primary health care (PHC), child monitoring plays a central role. It involves observation, data collection and recording, interpretation of information over time, and shared decision-making with caregivers.⁵ On the other hand, screening allows for the detection of developmental problems by using instruments that facilitate specific diagnoses and access to therapeutic services.⁶

Expanding public policies aimed at CD is essential to promoting interventions that support families.⁷ Thus, a welcoming, detailed consultation that considers the child, their family, and their context is essential to adequate care, continuous monitoring, and accurate diagnosis.^{8,9}

Given the importance of ID and qualified access to childcare, it is necessary to gather scientific knowledge on

the role of PHC professionals in promoting healthy early childhood. The objective is to identify the knowledge, attitudes, and practices of PHC professionals related to CD.

METHOD

This is an integrative review (IR) for synthesizing scientific knowledge, which follows these steps: (1) identification of the problem, (2) bibliographic search, (3) data extraction and evaluation, (4) data analysis, and (5) presentation of the review.¹⁰

The PICo strategy was used for the guiding question: Population = health professionals; Interest = knowledge, attitudes, and practices of health professionals about child development; Context = APS. Thus, the guiding question was: What is the knowledge, attitude, and practice of primary health care (PHC) health professionals regarding child development?

The selected scientific databases were PubMed, Web of Science, Scopus, VHL, and CINAHL. Keywords and the Boolean operators AND and OR were used for the descriptors. Searches were conducted on January 20, 2025, in each database, yielding a total of 752 articles: PubMed (119), Web of Science (63), Scopus (115), VHL (325), and CINAHL (130). EndNote was used to remove duplicates.

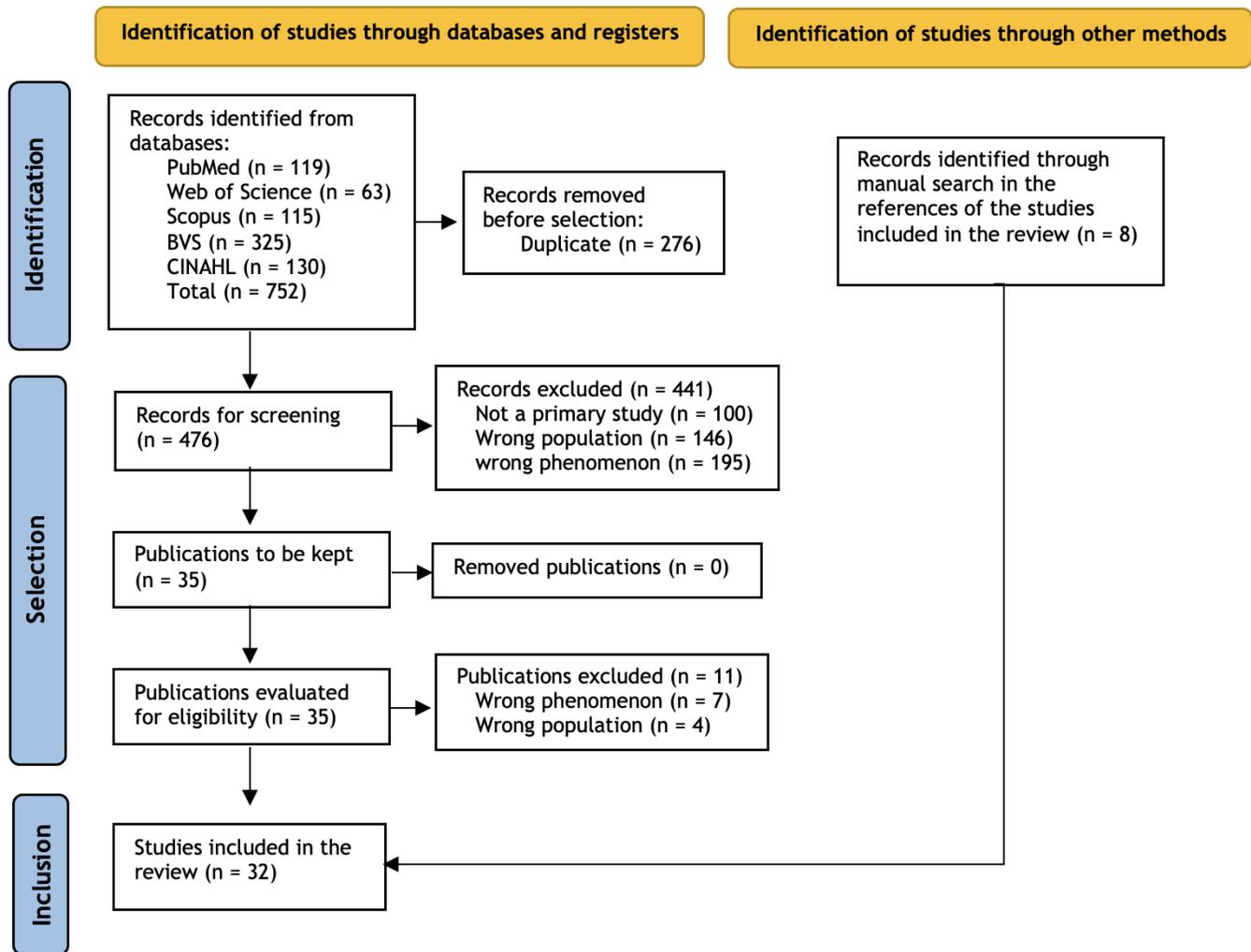
The inclusion criteria were complete original articles published from January 2014 to December 2024 that were

available in Portuguese, English, or Spanish and involved PHC professionals' knowledge of ID. The exclusion criteria were clinical trial protocols, case reports, editorials, thesis, dissertations, letters, blogs, books, book chapters, and expert opinions.

The Rayyan program was used to select studies among reviewers.¹¹ The selection was carried out based on reading

the titles and abstracts and the IR guiding question and eligibility criteria. Two reviewers worked independently. A third reviewer resolved conflicts, and the final sample was defined as shown in Figure 1.

Figure 1 - Flowchart of the article search and selection process. Ribeirão Preto, SP, Brazil, 2025



Source: The Authors, 2025.

RESULTS

The identified studies are distributed among the following countries: Australia, the United States, Switzerland, Kuwait,

South Africa, Turkey, and Brazil. Eighteen articles are in English, and fourteen are in Portuguese. Most of the articles were published in 2024 (n = 7), 21 articles included nurses

as participants. In terms of methodology, 15 articles were quantitative studies and 17 were qualitative studies. The characteristics of the 32 included articles are shown in Chart 1.

The results regarding knowledge, attitudes, and professional practices related to CD were organized into the following themes: (1) Aspects of CD evaluated during the child's consultation (2) CD surveillance (3) Use of screening instruments for CD (4) Referral for early intervention (5) Health education for caregivers related to CD promotion.

Gaps in in-depth knowledge stood out in the aspects of CD evaluated in child consultations. Many professionals did not know how to differentiate growth from development. They also demonstrated weaknesses in their knowledge of CD milestones and children's abilities by age group.¹²⁻¹⁶

Regarding oral health monitoring, dentists emphasized the importance of CD assessment using the Child's Handbook (CC).¹⁷ Studies involving community health agents (ACS) have identified the importance of assessing children's neuropsychomotor development.¹⁸⁻²⁰ Interventions carried out by ACS have benefited families by strengthening positive parenting.²¹ However, some professionals on the multidisciplinary team believe that CD surveillance is not their responsibility and attribute it to physicians and nurses.²²

Comparing the responses of caregivers and professionals regarding developmental assessments revealed discrepancies: mothers reported fewer effective practices to promote CD than professionals did.²³

CD surveillance is recognized as important in the context of childcare consultations.^{17,24,25} The work of the PHC multiprofessional team made it possible to identify children's health problems early.^{17,26} However, surveillance was incomplete, and only child growth assessments^{15,27,28} and vaccination checks were identified.²⁹ Regarding CC use, nurses recognized its importance for CD evaluation, but did not ensure adequate completion, prioritizing notes exclusively in the child's electronic medical record.³⁰

CD screening instruments used included the Modified Checklist for Autism in Toddlers (M-CHAT), Ages and Stages Questionnaires (ASQ), Parents' Evaluation of Developmental Status (PEDS), and Denver Developmental Screening Test. Between 2002 and 2016, there was a significant increase in ASQ application, highlighting progress in CD assessment standardization.

However, despite the use of these tools, not all professionals adequately interpret the results for families or make the necessary referrals.³⁶ Some professionals do not make adequate use of the tools^{32,33,37,38} only considering the mother's report of CD without a standardized evaluation.^{28,39,40}

Family health physicians correctly referred children with delayed CD for intervention,⁴¹ but there is a lack of knowledge among health professionals regarding timely referrals.^{27,36}

Health education actions were mainly carried out by nurses during childcare consultations,^{24,26,30,42,43} but some services lacked educational actions on CD.^{28,39} A study on nurses' practices found that health education was among the least performed.²⁹

DISCUSSION

This review examined the knowledge, attitudes, and practices of primary health care (PHC) professionals regarding child development in different global contexts. The results revealed weaknesses in knowledge, as well as restricted attitudes and practices, suggesting that PHC professionals, regardless of region or context, lack solid knowledge about CD.

Continuing education in health (CEH) provides professionals with the opportunity to reflect on their practices, the daily routines of services, and the challenges of CD surveillance. Therefore, CEH is essential for constructing knowledge, effecting institutional change, and improving practices.^{44,45}

International organizations have promoted integrated approaches to evaluating and promoting CD. The Global Strategy for Women's, Children's, and Adolescents' Health emphasizes guaranteeing the right to better health conditions⁴⁶, and the Nurturing Care Framework is a strategy for healthy child development through good health, adequate nutrition, responsive care, early learning, and safety and security.⁴⁷ These initiatives reinforce the importance of professional collaboration in promoting and monitoring CD.

Timely intervention is essential for children's full development, yet health professionals still face knowledge and attitude gaps in CD follow-up.⁴⁸ Continuous surveillance is a promising action for detecting delays and enabling appropriate interventions.

Although health professionals demonstrate knowledge of CD screening instruments and are instructed to use them, they still face difficulties applying and interpreting the results. Effective use of these tools requires thorough training to ensure safe and accurate assessments.^{49,50} Since 2006, the American Academy of Pediatrics has recommended routine screening at 9, 18, and 24-30 months, even in the absence of complaints.⁵¹ Using standardized tools allows for more accurate assessment of delay levels, facilitating timely intervention.⁵ Despite these advances, weaknesses in practice implementation persist, reinforcing the need to strengthen CD surveillance in primary health care (PHC).

It is especially important to identify delays in CD and adopt strategies to minimize their impact in childcare consultations.⁵²

Of the included studies, 15 evaluated the role of nurses, 14 of which were carried out in Brazil. This may be related to nurses' performance in childcare consultations in primary health care (PHC), which improved after the implementation of the Family Health Strategy (ESF) in Brazil.⁵³ Nurses have experience and contact with children through home visits and childcare consultations, making them a significant target audience for research involving developmental delay (DD).^{54,55}

In PHC, community health agents (ACS) play an essential role in CD surveillance, especially through home visits to monitor children in the community.^{56,57} Therefore, awareness and continuous training in CD monitoring are fundamental.

CONCLUSION

The study concludes that many professionals lack solid knowledge about CD, which reinforces the need for

continuous training and qualified interventions in clinical practice. The study emphasizes the importance of CD surveillance in primary health care (PHC), considering the sociocultural context of children and using validated tools. It highlights the effectiveness of health education and partnerships with families in promoting healthy CD regarding the actions taken. Among the limitations are the restricted databases and filters used, expanding them could enrich future analyses. A notable strength is the comparison between countries with different sociodemographic realities, which fosters reflection on professional practices and public policies, highlighting the challenges professionals face and ways to improve services.

ACKNOWLEDGEMENT

To the São Paulo Research Foundation (FAPESP): Process Number 2024/01218-4.

Chart I – Synthesis of the studies included in the final sample of the integrative review (n=32). Ribeirão Preto, São Paulo, Brazil, 2025

Authors	Study Type	Professionals	Main Results
D'Aprano et al. (2016) ¹²	Quantitative	Paediatric nurses, General practitioners, and pediatricians	Gaps in CD monitoring, absence of structured tools for remote areas, difficulties with electronic records, and lack of counseling and follow-up actions are all problems that need to be addressed.
Benicio et al. (2016) ⁴³	Qualitative	Family Health Nurses	They used childcare consultations for health education and comprehensive growth and CD monitoring, with an emphasis on guidance for mothers.
Vieira et al. (2023) ¹³	Quantitative	Family Health Nurses	Limited knowledge about child growth and development is possessed. There was an improvement in the questionnaire scores after the intervention.
Figueiras; Puccini; Silva (2014) ²³	Quantitative	Nurses and family health doctors	In the pre-test, health professionals demonstrated inadequate knowledge of CD. There were discrepancies between the answers of mothers and professionals.
Figueiredo et al. (2020) ¹⁷	Qualitative	Dentists	They recognize the importance of children's consultations and the use of CC in evaluations.
Garg et al. (2018) ²⁴	Qualitative	General and family health nurses, general practitioners, and pediatricians	Health professionals are familiar with CD screening tools (PEDS and ASQ). However, they face practical challenges and demonstrate limited knowledge of and acceptance for their use in CD surveillance.

Authors	Study Type	Professionals	Main Results
Gellasch (2019) ³⁷	Qualitative	Family Health Nurses	Most did not use standardized tools, instead adopting informal practices. They were unaware of current recommendations and had difficulty describing the screening instruments.
Keil <i>et al.</i> (2014) ³¹	Quantitative	Nurses, family health doctors, and pediatricians	More than half of the physicians reported the routine use of validated CD screening tools, primarily the ASQ and M-CHAT.
Yakuwa <i>et al.</i> (2015) ²⁶	Qualitative	Family Health Nurses	They related child health surveillance to monitoring growth and development and the early identification of problems, considering the individual, family, socioeconomic, and cultural contexts.
Matos; Martins; Fernandes (2016) ¹⁶	Quantitative	Family Health Nurses	They recognized the importance of the AIDPI strategy and demonstrated satisfactory knowledge of it. However, their understanding of child development and its milestones was insufficient.
Moore <i>et al.</i> (2017) ³⁶	Quantitative	Family health doctors, and pediatricians	While most used standardized screenings for children under five years of age, many did not discuss the results with their parents or make necessary referrals. Despite the training, only half of the participants felt confident, and 30% had difficulty addressing abnormal screening results with families.
Moser <i>et al.</i> (2023) ⁴¹	Quantitative	Family Health Doctors	Most children with developmental delays were identified during childcare consultations and referred for early intervention.
Reichert <i>et al.</i> (2015) ¹⁴	Quantitative	Family Health Nurses	Before the intervention, professionals correctly answered 22% of CD questions and 25% of CD perception questions. After the intervention, there was a significant increase in the number of correct answers about developmental milestones.
Pereira <i>et al.</i> (2015) ⁴²	Qualitative	Family Health Nurses	Some professionals reported taking health education actions and offering guidance on child health promotion, growth monitoring, and developmental milestones.
Reichert <i>et al.</i> (2015) ²⁷	Qualitative	Family Health Nurses	There were weaknesses and a lack of preparation in CD surveillance and childcare consultations that were limited to anthropometric assessments. After training, they increased CD surveillance and referrals.
Santos <i>et al.</i> (2020) ¹⁸	Quantitative	ACS	Some ACS stated that they were aware of CD surveillance by the CC. Participation in the training program enabled them to detect CD delays.
Yakuwa; Neill; Mello (2018) ²⁵	Qualitative	Family Health Nurses	They strengthened child health indicators through health education and the promotion of children's rights.
Gaíva <i>et al.</i> (2018) ²⁸	Qualitative	Family Health Nurses	Child growth was assessed in all consultations and CD was assessed partially. Some used the CC and Denver II test without guidance on stimulation.

Authors	Study Type	Professionals	Main Results
Gaíva; Alves; Monteschio (2019) ³⁹	Qualitative	Family Health Nurses	Not everyone performed an CD assessment, and most consultations were partial. They were based only on maternal perception and lacked guidance on influential factors and stimulation activities.
Vieira et al. (2018) ²⁹	Quantitative	Family Health Nurses	Immunization and supplementation evaluations were performed more frequently, while anamnesis, reception, physical examination, developmental index (DI), and health education evaluations were less frequent.
Vieira et al. (2019) ¹⁵	Qualitative	Family Health Nurses	Some actions were implemented in childcare, but CD surveillance and relational techniques were fragile.
Hix-Small; Alkherainej (2017) ³³	Quantitative	Family Health Doctors, General Practitioners, and Pediatricians	Family physicians and pediatricians rarely use CD screening instruments or know how to apply them, prioritizing immunization instead.
Moheize et al. (2024) ²¹	Quantitative	ACS	Families monitored by ACS experienced a reduction in psychosocial stress, an increase in protective factors, and support for CD.
Moolla et al. (2024) ¹⁹	Qualitative	ACS	They recognize the importance of nutrition, breastfeeding, immunization, and early education for CD and receive continuous training.
Carvalho et al. (2024) ³⁰	Qualitative	Family Health Nurses	They value CC for CD evaluation, but they have difficulty filling out the treatment plan adequately, which compromises the quality of follow-up.
Rojas; Pio; Nonato (2024) ³²	Qualitative	Nurses and family health doctors	Most professionals never received CD training, and only a few used Denver II and M-CHAT.
Silva et al. (2024) ²⁰	Qualitative	ACS	They have a comprehensive understanding of CD, considering physical, emotional, and social factors.
Sucakli et al. (2024) ³⁸	Quantitative	Family Health Doctors	They frequently provided guidance on media, positive behaviors, and jokes. CD training improved their knowledge but did not improve their use of standardized tools.
Coker et al. (2024) ³⁴	Quantitative	Pediatricians	Most pediatricians performed screenings but rarely used validated instruments. The ASQ was the most commonly used instrument.
Pereira Neto et al. (2020) ⁴⁰	Qualitative	Family Health Nurses	Few evaluated CD milestones, limiting their evaluations to maternal reports, which suggests late diagnoses.
Marinus et al. (2022) ²²	Qualitative	Family Health Team: Doctors, nurses, dentists, nursing technicians, ACS, and oral health technicians and assistants	Some professionals did not recognize CD surveillance as their responsibility, instead attributing it to physicians and nurses. There was a lack of surveillance actions for children over two years old.
Lipkin et al. (2020) ³⁵	Quantitative	Pediatricians	The use of the ASQ tool increased between 2002 and 2016, indicating progress in identifying developmental delays.

Source: The Authors, 2025.

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