







Continuity of care for children in primary health care: a cross-sectional evaluative study

Longitudinalidade do cuidado à criança na atenção primária à saúde: estudo avaliativo transversal

Continuidad de la atención infantil en la atención primaria de salud: estudio evaluativo transversal

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ABSTRACT

Objective: To evaluate the presence and extent of the longitudinality attribute of Primary Health Care in child health care in a municipality in Minas Gerais, Brazil, according to caregivers' experiences. **Methods:** A cross-sectional evaluative study conducted in 29 Primary Health Care teams. A total of 389 caregivers of children aged zero to two years participated. Data were collected using the Brazilian version of the Primary Care Assessment Tool (PCATool-Brazil), Child Edition, and analyzed through descriptive and inferential statistics, adopting a significance level of 5%. **Results:** The overall and essential scores showed a high orientation toward Primary Health Care. The longitudinality attribute presented a satisfactory score (6.7), indicating a strong bond between caregivers and health professionals, particularly nurses and nursing residents. Weaknesses were identified in some items composing the score. A higher degree of affiliation with the service was associated with better longitudinality scores. **Conclusion:** Longitudinality of child care showed a high orientation toward Primary Health Care, although challenges remain. The findings provide evidence to support the strengthening of service organization and the quality of child health care.

DESCRIPTORS:

Health; Primary Health Care; Health Evaluation; Quality of Health Care; Child.

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RESUMO

Objetivo: Avaliar a presença e a extensão do atributo longitudinalidade da Atenção Primária à Saúde na atenção à saúde da criança em um município de Minas Gerais, segundo a experiência dos cuidadores. **Métodos:** Estudo avaliativo, transversal, realizado em 29 equipes da Atenção Primária à Saúde. Participaram 389 cuidadores de crianças de zero a dois anos de idade. Os dados foram coletados por meio do *Primary Care Assessment Tool* – Brasil, versão criança, e analisados por estatística descritiva e inferencial, adotando-se nível de significância de 5%. **Resultados:** Os escores geral e essencial apresentaram alta orientação para a APS. O atributo longitudinalidade apresentou escore satisfatório (6,7), evidenciando vínculo entre cuidadores e profissionais, especialmente com o enfermeiro e com o residente de enfermagem. Foram identificadas fragilidades em alguns itens que compõem o escore. Observou-se associação entre maior grau de afiliação ao serviço e melhores escores de longitudinalidade. **Conclusão:** A longitudinalidade do cuidado à criança apresentou alta orientação para a APS, embora persistam desafios. Os resultados fornecem subsídios para o fortalecimento da organização dos serviços e da qualidade da atenção à saúde da criança.

DESCRIPTORIOS:

Saúde; Atenção Primária à Saúde; Avaliação em Saúde; Qualidade da Assistência à Saúde; Criança.

RESUMEN

Objetivo: Evaluar la presencia y la extensión del atributo longitudinalidad de la Atención Primaria de Salud en la atención a la salud infantil en un municipio de Minas Gerais, Brasil, según la experiencia de los cuidadores. **Métodos:** Estudio evaluativo de corte transversal realizado en 29 equipos de Atención Primaria de Salud. Participaron 389 cuidadores de niños de cero a dos años de edad. Los datos se recolectaron mediante el *Primary Care Assessment Tool*-Brasil, versión infantil, y se analizaron mediante estadística descriptiva e inferencial, adoptándose un nivel de significación del 5%. **Resultados:** Las puntuaciones general y esencial mostraron una alta orientación hacia la Atención Primaria de Salud. El atributo longitudinalidad presentó una puntuación satisfactoria (6,7), evidenciando vínculo entre los cuidadores y los profesionales de salud, especialmente con los enfermeros y los residentes de enfermería. Se identificaron debilidades en algunos de los ítems que componen la puntuación. Se observó una asociación entre un mayor grado de afiliación al servicio y mejores puntuaciones de longitudinalidad. **Conclusión:** La longitudinalidad de la atención infantil presentó una alta orientación hacia la Atención Primaria de Salud, aunque persisten desafíos. Los resultados aportan evidencia para fortalecer la organización de los servicios y la calidad de la atención a la salud infantil.

DESCRIPTORIOS:

Salud; Atención Primaria de Salud; Evaluación en Salud; Calidad de la Atención de Salud; Niño.

INTRODUCTION

Child health care is a priority topic in national and international debates on health and development. In this context, it was included among the objectives and goals established in the Millennium Development Goals and reiterated in the Sustainable Development Goals established by the United Nations as part of the 2030 Agenda⁽¹⁾.

In line with these guidelines, important advances in child health have been observed, mainly in indicators related to infant mortality⁽²⁾. In Brazil, between 1990 and 2015, the infant mortality rate

decreased from 47.1 to 13.3 deaths per thousand live births. In 2016, there was an increase to 14 deaths per thousand live births, followed by a return to previous levels between 2017 and 2019⁽³⁾. Regular monitoring of these indicators plays a key role in evaluating public policies, supporting decision-making by managers and addressing inequalities, which contributes to progress towards global goals^(2,4).

In the early 1990s, with the creation of the Brazilian Unified Health System (SUS), there was a paradigm shift in health policies, marked by the implementation of the Family Health Program in 1994, currently called the Family Health Strategy (FHS). Evidence indicates that municipalities with high FHS coverage have greater use of Primary Health Care (PHC) services and accelerated improvements in health indicators, such as reduced infant mortality, increased vaccination coverage, expanded access to health services and reduced malnutrition⁽⁵⁾.

However, new challenges have emerged along this path, such as the persistence of regional and socioeconomic disparities, the increase in childhood obesity⁽⁶⁾, and inequalities in health and vaccination coverage in different social contexts and between countries⁽⁷⁾. Furthermore, old problems persist, such as the high prevalence of congenital syphilis and morbidity and mortality of children under five years of age due to causes sensitive to PHC⁽⁸⁾, as well as difficulties in implementing intersectoral actions to address the social determinants of health.

Regarding the effectiveness of PHC in child health, its attributes can be classified as essential and derived. Essential attributes include first-contact access, longitudinality, comprehensiveness, and coordination of care; derived attributes refer to family and community orientation and cultural competence⁽⁹⁻¹¹⁾. It is observed that PHC services in Brazil are heterogeneous in terms of the presence and extent of these attributes in child care, indicating that comprehensiveness of care is still a process under construction, which requires progress and has found more fertile ground in FHS services⁽¹¹⁾.

Given the above, it is evident that knowledge about the presence and extent of PHC attributes in child health represents a valuable source of information for professionals and managers of the SUS, contributing to the organization of the service and the improvement of care. In this context, the question arises: what is the presence and extent of the longitudinality attribute in child health care in primary health care services according to the experience of caregivers?

OBJECTIVE

To evaluate the presence and extent of the longitudinality attribute of Primary Health Care in child health care in a municipality in Minas Gerais, according to the caregivers' experience.

METHODS

Study design

This is an evaluative study with a cross-sectional design. This type of study seeks, through the analysis of the processes or results of a health service, to determine its efficacy, effectiveness and efficiency based on quantifiable measures⁽¹²⁾.

The methodological framework adopted was the Donabedian evaluation model⁽¹³⁾, which is organized into three categories: structure, process and outcome. The theoretical framework was constituted by the attributes of PHC proposed by Starfield⁽¹⁴⁾, defined as essential attributes - first contact access, comprehensiveness, longitudinality and coordination; and derived attributes - family orientation, community orientation and cultural competence.

Study site and period

The study was conducted in a municipality located in the Central-West region of Minas Gerais, Brazil. At the time of data collection, the municipality had 42 PHC units, of which 32 were characterized as Family Health teams (FHTs) and 10 as Primary Care teams (PCTs)⁽¹⁵⁾.

The study setting was defined as all FHTs in the urban area that had been operating for more than one year and that routinely offered follow-up consultations on the growth and development of children aged zero to two years to the assigned population, totaling 29 units. Data collection took place between August and December 2019.

Population and sample

The study population consisted of caregivers of children aged zero to two years old registered in the FHT included in the study. In 2017, according to data from the Integrated Health System provided by the Municipal Health Department, there were 3,966 children in this age group registered in PHC services.

To estimate the sample size, a confidence level of 95%, a sampling error of 5%, and a prevalence of 50% for the event studied (having the FHT as the main source of child care) were considered, resulting in a minimum sample of 321 participants.

Inclusion and exclusion criteria

Primary caregivers (those responsible for the child's ongoing care) were included if they demonstrated sufficient comprehension to answer the questionnaires and had previously taken the child to the FHT at least once. Caregivers under 18 years of age were excluded.

Data collection

The selection of participants was carried out by convenience sampling. The researchers attended the health units on pre-defined days and times, when there were scheduled follow-up appointments for

the child's growth and development with the doctor or nurse. All caregivers who attended the health unit accompanied by the child, whether for consultation or for other needs (such as immunization, dental evaluation and others), were invited to participate in the study, respecting the selection criteria.

Following the guidelines of the Primary Care Assessment Tool (PCATool-Brazil) Manual⁽¹⁵⁾, the following question was used to identify the child's primary caregiver: "Who is the person who is best able to talk about the health care of(child's name)?"

Data collection was carried out using the PCATool-Brazil, child version⁽¹⁵⁾, an instrument developed by Starfield⁽¹⁴⁾ in the United States of America and validated for Brazil by Harzheim⁽¹⁶⁾. The instrument is based on the theoretical framework of PHC and the Donabedian assessment model⁽¹³⁾.

The PCATool-Brazil, child version, is composed of 55 items distributed across 10 components related to the attributes of PHC. The items are structured on a Likert scale, allowing the construction of scores with a range of 1 to 4 for each attribute. The final score for each attribute corresponds to the average of the responses of its component items. The scale is in the public domain and its Portuguese version is made available by the Ministry of Health⁽¹⁵⁾.

Data analysis

All collected data were entered and analyzed using the Statistical Package for the Social Sciences (SPSS) version 23 statistical software. Double data entry was performed for quality control and verification of inconsistencies.

Descriptive measures appropriate to the nature of the variables studied (quantitative and qualitative) were applied. The distribution of the data was assessed using the Shapiro-Wilk normality test. In the inferential analysis, the Kruskal-Wallis test for independent samples was used, adopting a significance level of 5%.

The responses to the PCATool items were recorded on a Likert scale: "definitely yes" (value=4), "probably yes" (value=3), "probably no" (value=2), "definitely no" (value=1) and "I don't know / I don't remember" (value=9). The attribute and component scores were calculated by averaging the values assigned to the corresponding items.

The following steps were followed to calculate the scores:

Step 1. The values of items C2, C4, C5, and D10 were inverted, as they are formulated in such a way that the higher the value (response) assigned, the lower the orientation towards PHC. Thus, the values were inverted to: (value 4=1), (value 3=2), (value 2=3), and (value 1=4).

Step 2. When the sum of blank ("missing") responses with "9" ("I don't know / I don't remember") responses reached 50% or more of the total items of a component ("B" to "J"), the score for that component was not calculated for the interviewee, remaining "missing" in the database. When this sum

was less than 50% of the total items in the component, the value “9” was transformed into the value “2” (“probably not”)⁽¹⁵⁾.

Step 3. For the attributes first contact access – utilization (B), first contact access – accessibility (C), longitudinality (D), coordination - integration of care (E); coordination - information system (F); comprehensiveness - available services (G); comprehensiveness - services provided (H); family orientation (I) and community orientation (J), the average score was obtained by summing the scores of the items divided by the number of items in the respective component. The inversion of items C2, C4, C5 and D10 was considered, as described previously. Item E1 was not included in the score calculation as it is a descriptive item⁽¹⁵⁾.

Step 4. The essential, derived and overall scores of the PHC were calculated. The essential score was calculated by summing the average scores of the components belonging to the essential attributes, plus the degree of affiliation, and dividing by the number of components $(A + B + C + D + E + F + G + H) / 8$. The derived score was obtained by summing the average scores of the components belonging to the derived attributes and dividing by the number of components $(I + J) / 2$. The overall score was calculated by summing the average scores of the components of the essential attributes, the degree of affiliation, and the derived attributes, and dividing by the total number of components $(A + B + C + D + E + F + G + H + I + J) / 10$.

Ethical aspects

All information used in this research was handled in accordance with the guidelines and safeguards established by the Research Ethics Committee of the Federal University of São João del-Rei (UFSJ). The study was approved by the Research Ethics Committee Involving Human Beings of UFSJ, under the Certificate of Presentation for Ethical Review No. 02561118.0.0000.5545 and opinion No. 3.090.646.

RESULTS

The study included 389 caregivers of children aged zero to two years, of whom 339 (79.1%) were affiliated with the PHC service. Among the participants, the majority were mothers (87.3%), with a mean age of 29.7 (± 8.9) years. Regarding occupational status, 187 (55.2%) were unemployed at the time of the interview, and the mean length of education was 9.0 (± 2.6) years. Concerning the children, 190 (56%) were male; 95 (28%) had health insurance; 219 (64.6%) had received maternal prenatal care at the FHS; and 272 (80.2%) had never been hospitalized.

Regarding the degree of affiliation with PHC, 5 (1.5%) participants had a degree of affiliation 1; 45 (13.3%) had a degree of affiliation 2; degree of affiliation 3 was appropriate for 105 participants (31%); and degree of affiliation 4 was appropriate for 184 caregivers (54.2%). In relation to the PHC professional

to whom the caregiver reported a relationship, 248 (73.2%) participants have a relationship with the nurse; followed by the doctor (n=41, 12.1%); nursing resident (n=35, 10.3%); doctor and nurse (n=12, 3.5%) and with the nursing technician (n=2, 0.6%).

Table 1 presents the scores of the PHC attributes, as well as the overall, essential and derived scores. The satisfactory performance of PHC stands out in the overall and essential scores, while the orientation towards PHC (< 6.6) is low in the derived score, as well as in the attributes of accessibility, comprehensiveness of available services, and community orientation.

Table 1. Description of the overall, essential, and derived scores and by primary health care orientation attributes in child health, according to the experience of caregivers of children aged zero to two years. Municipality in the state of Minas Gerais, Brazil, 2019.

PHC Attribute	Minimum/Maximum	Mean/SD	% high score (n)
First Contact Access	0.0 ----- 10	7.7 (±2.1)	79.9 (271)
First Contact Access - Accessibility	0.5 ----- 10	6.2 (±2.1)	50.7 (172)
Longitudinality	2.6 ----- 9.2	6.7 (±1.2)	59.6 (202)
Coordination - Care Integration	0.0 ----- 10	6.8 (±2.9)	25.4 (86)
Coordination - Information System	0.1 ----- 10	8.1 (±1.8)	86.7 (294)
Comprehensiveness of Available Services	1.4 ----- 10	5.9 (±1.7)	36.9 (125)
Comprehensiveness of Services Provided	0.0 ----- 10	7.8 (±2.4)	74.9 (254)
Community Orientation	0.8 ----- 10	5.8 (±2.0)	41.0 (139)
Family Orientation	0.0 ----- 10	6.9 (±2.6)	66.7 (226)
Essential Score	3.7 ----- 9.6	7.2 (±1.1)	71.7 (243)
Derived Score	0.9 ----- 10	6.4 (±1.9)	48.7 (165)
Overall Score	3.6 ----- 9.6	7.0 (±1.1)	66.1 (224)

The longitudinality attribute presented an average score of 6.7 (Table 1), placing it close to the cutoff point for high orientation towards PHC (≥ 6.6). Considering its relevance to the quality and continuity of child care, a detailed analysis of its component items was carried out, the results of which are presented in Table 2.

Table 2. Description of the scores for the longitudinality attribute items according to the experience of caregivers of children aged zero to two years. Municipality in the state of Minas Gerais, Brazil, 2019.

Items of the Longitudinality attribute	Minimum/Maximum	Mean/SD	% high score (n)
D1. When you go to the “ <i>name of the health service</i> ”, is it the same doctor or nurse who sees your child every time?	0.0 ----- 10	7.3 (± 3.3)	76.7 (260)
D2 - If you have a question about your child's health, can you call and speak to the “ <i>doctor/nurse</i> ” who knows your child best?	0.0 ----- 10	5.8 (±3.7)	58.1 (197)
D3 - Do you think your child's “ <i>doctor/nurse</i> ” understands what you say or ask?	0.0 ----- 10	9.1 (±1.8)	96.8 (328)
D4 - Does the “ <i>doctor/nurse</i> ” answer your questions in a way that you understand?	0.0 ----- 10	9.2 (±1.6)	97.6 (331)
D5 - Does the “ <i>doctor/nurse</i> ” give you enough time to talk about your concerns or problems?	0.0 ----- 10	9.1 (±2.0)	94.4 (320)
D6 - Do you feel comfortable telling the “ <i>doctor/nurse</i> ” about your child's concerns or problems?	0.0 ----- 10	8.9 (±2.2)	94.1 (319)
D7 – Does the “ <i>doctor/nurse</i> ” know your child more as a person than just as someone with a health problem? (Explanation: knows where they live, if they go to school, who the other family members are...)	0.0 ----- 10	6.3 (±3.7)	65.2 (221)
D8 - Does the “ <i>doctor/nurse</i> ” know your child's complete medical history? (Explanation: knows if the child was born prematurely or not, if they have ever been hospitalized, their feeding history...)	0.0 ----- 10	7.7 (±3.2)	80.2 (272)
D9 - Does the “ <i>doctor/nurse</i> ” know about all the medications your child is taking?	0.0 ----- 10	7.3 (±3.4)	76.1 (258)
D10 - Would you change your healthcare provider if it were very easy to do?	0.0 ----- 10	3.7 (±3.8)	31.0 (105)
D11 - Do you think the “ <i>doctor/nurse</i> ” knows your family well? (Explanation: knows who the family members are, who works there and where...)	0.0 ----- 10	4.8 (±3.8)	47.8 (162)
D12 - Does the “ <i>doctor/nurse</i> ” know what the most important problems are for you and your family? (Explanation: knows if someone has a chronic illness, if they have a bedridden member who needs specialized care...)	0.0 ----- 10	5.3 (±3.8)	51.9 (176)
D13 — Does the “ <i>doctor/nurse</i> ” know about the work or employment of your child's family members?	0.0 ----- 10	3.8 (±3.7)	34.2 (116)
D14 — Would the “ <i>doctor/nurse</i> ” somehow know if you had problems obtaining or paying for medications your child needs?	0.0 ----- 10	5.7 (±3.7)	56.3 (191)
Score of the longitudinality attribute	2.6 ----- 9.2	6.7 (±1.2)	59.6 (202)

The low performance of items D2, D7, D10, D11, D12, D13, and D14 stands out. Table 3 then describes the scores for the longitudinality attribute items stratified by the degree of affiliation of caregivers to the PHC service.

Table 3. Description of item scores for the longitudinality attribute according to the experience of caregivers of children aged zero to two years, stratified by degree of affiliation with primary health care services. Municipality in the state of Minas Gerais, Brazil, 2019.

Items of the Longitudinality attribute	Affiliation 1	Affiliation 2	Affiliation 3	Affiliation 4	p value*
D1. When you go to the “name of the health service”, is it the same doctor or nurse who sees your child every time?	5.18	5.55	7.74	7.70	≤0.001
D2 – If you have a question about your child's health, can you call and speak to the “doctor/nurse” who knows your child best?	3.70	5.79	6.09	5.82	0.329
D3 – Do you think your child's “doctor/nurse” understands what you say or ask?	7.40	8.73	8.95	9.38	0.024
D4 – Does the “doctor/nurse” answer your questions in a way that you understand?	8.88	8.96	9.26	9.39	0.158
D5 – Does the “doctor/nurse” give you enough time to talk about your concerns or problems?	8.51	9.44	8.92	9.21	0.405
D6 – Do you feel comfortable telling the “doctor/nurse” about your child's concerns or problems?	7.77	8.73	8.76	9.25	0.290
D7 – Does the “doctor/nurse” get to know your child more as a person than just as someone with a health problem?	4.07	5.15	5.87	7.03	0.002
D8 – Does the “doctor/nurse” know your child's complete medical history?	5.92	6.34	7.74	8.16	0.010
D9 – Does the “doctor/nurse” know about all the medications your child is taking?	5.92	5.39	7.23	7.86	≤0.001
D10 – Would you switch from one “health service name” to another health service if it were very easy to do?	4.44	4.04	3.87	3.55	0.709
D11 – Do you think the “doctor/nurse” knows your family well enough?	6.66	6.11	5.26	4.15	0.004
D12 — Does the “doctor/nurse” know what the most important problems are for you and your family?	3.33	3.88	4.82	6.01	≤0.001
D13 — Does the “doctor/nurse” know about the work or employment of your child's family members?	2.96	2.22	3.61	4.44	0.002
D14 — Would the “doctor/nurse” somehow know if you had trouble obtaining or paying for medications your child needs?	3.33	5.23	5.52	6.10	0.093
Longitudinality Attribute Score	5.58	6.11	6.69	7.0	≤0.001

*Kruskal-Wallis Independent Samples Test

Table 4 presents the average scores for the items of the longitudinality attribute according to the caregiver's relationship with the PHC professional.

Table 4. Description of item scores for the longitudinality attribute according to the experience of caregivers of children aged zero to two years, stratified by the caregiver's relationship with the primary health care professional. Municipality in the state of Minas Gerais, Brazil, 2019.

Items of the Longitudinality Attribute	Nurse	Nursing Intern	Doctor	Doctor and Nurse	p value
D1. When you go to the "name of the health service", is it the same doctor or nurse who sees your child every time?	7.6 (±3.2)	7.2 (±3.1)	6.7 (±3.5)	4.4 (±4.1)	0.020
D2 – If you have a question about your child's health, can you call and speak to the "doctor/nurse" who knows your child best?	5.7 (±3.7)	7.8 (±3.2)	4.8 (±3.7)	4.7 (±4.1)	0.005
D3 – Do you think your child's "doctor/nurse" understands what you say or ask?	9.1 (± 1.8)	9.5 (±1.1)	8.5 (±2.3)	9.4 (±1.2)	0.207
D4 – Does the "doctor/nurse" answer your questions in a way that you understand?	9.2 (±1.6)	9.4 (±1.5)	8.9 (±2.1)	10.0 (±0.0)	0.329
D5 – Does the "doctor/nurse" give you enough time to talk about your concerns or problems?	9.0 (±2.1)	9.7 (±1.2)	9.1 (±2.2)	10.0 (±0.0)	0.053
D6 – Do you feel comfortable discussing your concerns or problems related to your child with the "doctor/nurse"?	8.9 (±2.2)	9.4 (±1.5)	8.5 (±2.9)	9.7 (±0.9)	0.469
D7 – Does the "doctor/nurse" get to know your child more as a person than just as someone with a health problem?	6.4 (±3.6)	8.0 (±2.9)	4.9 (±4.0)	4.7 (±3.6)	0.002
D8 – Does the "doctor/nurse" know your child's complete medical history?	7.7 (±3.2)	8.5 (±2.5)	7.4 (±3.7)	6.6 (±3.7)	0.329
D9 – Does the "doctor/nurse" know about all the medications your child is taking?	7.1 (±3.5)	8.1 (±2.7)	7.0 (±3.7)	7.7 (±3.2)	0.415
D10 – Would you switch from one "health service name" to another health service if it were very easy to do?	3.7 (±3.8)	2.7 (±3.2)	4.9 (±3.8)	2.7 (±3.4)	0.100
D11 – Do you think the "doctor/nurse" knows your family well enough?	4.6 (±3.7)	4.2 (±4.0)	6.1 (±3.9)	4.4 (±4.7)	0.041
D12 — Does the "doctor/nurse" know what the most important problems are for you and your family?	5.3 (±3.8)	5.6 (±3.8)	4.7 (±4.0)	5.8 (±4.2)	0.829
D13 — Does the "doctor/nurse" know about the work or employment of your child's family members?	4.0 (±3.7)	4.8 (±3.9)	2.7 (±3.4)	3.0 (±3.0)	0.054
D14 — Would the "doctor/nurse" somehow know if you had trouble obtaining or paying for medications your child needs?	5.6 (±3.7)	6.5 (±2.8)	5.4 (±4.1)	5.2 (±4.1)	0.778
Longitudinality Attribute Score	6.7 (±1.2)	7.2 (±1.0)	6.4 (±1.3)	6.3 (±0.9)	0.017

DISCUSSION

Most caregivers reported good affiliation with the PHC team, suggesting that PHC is recognized as the main source of child health care in the territory. This result indicates that users identify the health unit as a reference for meeting their needs, favoring the establishment of lasting bonds between professionals and families. A service can be recognized as a primary care provider when it presents the four essential attributes of PHC, while its ability to qualify care increases when it adds the derived attributes⁽¹⁰⁾.

In this study, the overall and essential scores pointed to high PHC orientation, while the derived score showed low orientation. This indicates that, in the scenario studied, PHC is consistent with regard to the health care of children under two years of age, that is, it has the necessary attributes for a strong PHC. This result may be related to the high affiliation of caregivers to PHC and the consolidation of the follow-up of children in the FHT, favoring the continuity of care over time. Corroborating these results, a study conducted in a municipality in the southeastern region of Brazil showed higher essential and general scores in the assessment of children in early childhood⁽¹⁷⁾.

However, further progress is still needed in the aspects that make up the derived attributes, in order to improve the care offered to this population. For child health, strengthening family and community orientation⁽¹¹⁾ can favor the recognition of health needs in the context in which the child is inserted, expand the participation of families in the care process and strengthen the articulation between health services and the community, contributing to more comprehensive and responsive actions to local needs⁽¹⁸⁾.

In this study, longitudinality showed a high orientation towards PHC, which indicates the service's ability to guarantee continuous monitoring of the child over time. This result differs from a study conducted in the southeastern region of Brazil, which showed lower scores for this attribute, with averages of 5.7 for children under three years old and 5.2 for older children⁽¹⁷⁾, both indicating a low performance of PHC in this component. This difference may reflect heterogeneities in the organization of PHC and inequalities between different scenarios in the country, especially with regard to the stability of teams and the coverage of the FHS⁽¹⁹⁾.

In child health, longitudinality favors the construction of a continuous relationship between families and the health team, creating opportunities for the development of actions to promote health, prevent diseases and support parenting practices. Moreover, it contributes to the early identification of problems and to the implementation of more timely and effective interventions^(18,20). By strengthening continuous monitoring and the responsiveness of services to the needs of children and their families⁽¹⁸⁾, longitudinality can also contribute to the reduction of preventable problems and hospitalizations for conditions sensitive to PHC, recognized as important indicators of the effectiveness of primary care⁽¹⁴⁾.

Despite the high longitudinality score observed in this study, the analysis of the items that make

up this attribute revealed weaknesses related to communication between users and the health team through the telephone and other digital tools, which suggests weaknesses in the use of communication technologies in daily work. A similar result was identified in a study carried out in Paraná (Brazil), in which this component also showed low performance, suggesting limitations of the PHC teams in incorporating technological resources aimed at communication with users⁽²¹⁾.

In this context, the incorporation of digital technologies constitutes a promising strategy for strengthening longitudinality by expanding the possibilities of communication between users and health teams, favoring the monitoring of children between face-to-face consultations and enabling timely guidance to families in the face of doubts or incidents. A review study identified that digital interventions, such as telemedicine, messaging applications, applications for monitoring health conditions and care coordination tools can strengthen PHC by expanding the interaction between users, professionals and managers, favoring access to information and continuity of health care⁽²²⁾. Furthermore, the COVID-19 pandemic accelerated the use of technologies in PHC, which began to be adopted as a strategy to ensure the continuity of health care⁽²³⁻²⁴⁾, especially in priority groups, such as children and adolescents⁽²⁵⁾.

Another aspect that deserves highlighting refers to the perception of caregivers that doctors and nurses do not always recognize the child beyond their health problem. This finding suggests the persistence of practices still strongly influenced by the biomedical model, centered on the disease and its biological aspects. A similar result was observed in a study carried out in the Southeast region of Brazil, in which this component also presented an unsatisfactory score⁽²¹⁾. In child health care, understanding the family, social and environmental conditions that influence the health-disease process is fundamental for offering comprehensive care oriented to the real needs of families⁽²⁶⁾.

These results may be associated with limitations in professional training, especially regarding the principles of PHC and the high turnover of health professionals in the services, factors that hinder the consolidation of practices guided by the expanded concept of health⁽²⁷⁻²⁹⁾. In this sense, it becomes necessary to strengthen the training of human resources committed to the principles of SUS⁽³⁰⁾ and to approaches centered on the child and their family⁽²⁶⁾.

On the other hand, the high scores observed in the other components of longitudinality indicate that PHC has played a relevant role in building bonds between professionals and users. This bond fosters trust, expands professionals' knowledge of families' needs and contributes to the continuity of follow-up over time⁽¹⁴⁾. Thus, soft technologies constitute central elements of the work process in PHC, as they strengthen welcoming, qualified listening and co-responsibility for care, essential aspects for the consolidation of longitudinality⁽²⁷⁾.

The analysis of longitudinality according to the degree of affiliation with PHC showed that caregivers with a stronger link to the service had significantly higher scores in several components of this

attribute. These results reinforce that affiliation with PHC transcends the simple use of the service, reflecting a continuous and trusting relationship between families and health professionals⁽¹⁴⁾. The greater the identification of the PHC unit as the usual source of care, the greater the opportunities for accumulated knowledge of the patient and their family context, a central element for the consolidation of longitudinality and for the provision of more comprehensive and effective care⁽³¹⁾.

The analysis of scores according to the reference professional revealed that caregivers predominantly established a link with nursing professionals, especially the FHT nurse, followed by the nursing resident. The link with these professionals suggests their relevance to building lasting relationships between health services and families, a fundamental element for the longitudinality of care⁽¹⁴⁾.

This result is consistent with the organization of the work process in Brazilian PHC, in which the nurse plays a central role in monitoring child growth and development, in educational activities, in home visits and in care coordination⁽²⁰⁾. From this perspective, the nurse encompasses individual and collective care, as well as care management, problem solving related to the needs of users and their families and responding to social needs⁽¹⁸⁾.

It is noteworthy that nursing residents presented the highest scores in components related to communication with caregivers and recognition of the child beyond their health problem, in addition to the highest overall score for longitudinality. These findings suggest a potential contribution of residency to strengthening the longitudinality of care in PHC. Although these results should be interpreted with caution, due to the smaller number of participants linked to this professional category, a possible explanation lies in the residency training process, which favors the integration between theory and practice and encourages the adoption of approaches aligned with the principles of PHC⁽³⁰⁾. In-service training can contribute to reducing the centrality of the biomedical model⁽³⁰⁾ and to strengthening practices centered on the needs of children and their families, favoring the building of bonds and continuity of care⁽²¹⁾.

Study Limitations

This study has some limitations, which includes the evaluation of only PHC units in urban areas and the use of a convenience sample stand out, which may have introduced selection bias, since only users who attended health services on the days and times defined for data collection participated. Furthermore, because the information is self-reported, the occurrence of recall bias, resulting from the participants' ability to recall previous experiences related to child health care, cannot be ruled out.

Contributions for the Nursing Area, Health or Public Health

This study contributes to the field of nursing by highlighting the nurse's role in coordinating care and consolidating the attributes of PHC in child health, according to the care perspective. The results can

be used to support the creation of strategies aimed at strengthening and improving the quality of child health care in health services.

CONCLUSION

The longitudinality of child care showed a high orientation towards PHC in the municipality studied, demonstrating the ability of services to establish lasting bonds between professionals, children, and their families. However, weaknesses were identified related to communication between users and health teams through digital tools and to the recognition of the child beyond their health problem, aspects that may compromise the comprehensiveness and continuity of care.

The results of this study contribute to the evaluation of the presence and extent of PHC attributes and to the understanding of aspects related to the organization of health services, providing support for strengthening the principles of SUS and PHC guidelines in child health care.

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