



# The third stage of kangaroo method: experience of mothers and primary healthcare professionals

*Terceira etapa do método canguru: experiência de mães e profissionais da atenção primária*

*Tercera etapa del método madre-canguro: experiencia de madres y profesionales de atención primaria*

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## ABSTRACT

**Objective:** To understand the continuity of the third stage of the Kangaroo Method from the perspective of mothers and health professionals. **Method:** This is a qualitative, exploratory-descriptive study, carried out in Family Health Units and in the homes of kangaroo mothers in a capital city in northeastern Brazil. Twelve health professionals and ten kangaroo mothers were interviewed. The empirical material was submitted to thematic analysis. **Results:** Two thematic categories emerged: (Un)knowledge about the Kangaroo Method and its actions for the continuation of the third stage; and Obstacles to the continuation of the third stage of the Kangaroo Method. **Conclusion and implications for the practice:** The following was identified: minimal knowledge of professionals and mothers about the Kangaroo Method, lack of training for primary care professionals, and a gap in communication between primary and tertiary care. There is discontinuity of care for children and kangaroo mothers after hospital discharge, as primary care professionals are not being co-participants in the follow-up. Knowing the reality of the third stage of the kangaroo method makes it possible to plan strategies to overcome the existing difficulties for continuity of the method and thus offer qualified and comprehensive care to the mother-baby kangaroo binomial.

**Keywords:** Kangaroo-Mother Care Method; Primary Health Care; Mothers; Health professionals.

## RESUMO

**Objetivo:** Compreender a continuidade da terceira etapa do Método Canguru na perspectiva de mães e profissionais de saúde. **Método:** Trata-se de um estudo qualitativo, exploratório-descritivo, realizado em Unidades de Saúde da Família e nos domicílios de mães canguru em uma capital do nordeste brasileiro. Foram entrevistados doze profissionais de saúde e dez mães-canguru. O material empírico foi submetido à análise temática. **Resultados:** Emergiram duas categorias temáticas: (Des)conhecimento acerca do Método Canguru e suas ações para a continuidade da terceira etapa; e Entraves à continuidade da terceira etapa do Método Canguru. **Conclusão e implicações para prática:** Identificou-se o ínfimo conhecimento dos profissionais e das mães acerca do Método Canguru, ausência de capacitação dos profissionais da atenção primária, lacuna na comunicação entre a atenção primária e terciária. Há descontinuidade do cuidado à criança e mãe-canguru após alta hospitalar, pois os profissionais da atenção primária não estão sendo coparticipes no acompanhamento. Conhecer a realidade da terceira etapa do método canguru viabiliza o planejamento de estratégias para superar as dificuldades existentes para continuidade do método e assim ofertar um cuidado qualificado e integral ao binômio mãe-bebê canguru.

**Palavras-chave:** Método canguru; Atenção Primária à Saúde; Mães; Profissionais de saúde.

## RESUMEN

**Objetivo:** Comprender la continuidad de la tercera etapa del Método Canguro desde la perspectiva de las madres y los profesionales de la salud. **Método:** Estudio cualitativo, exploratorio-descriptivo, realizado en Unidades de Salud Familiar y en hogares de madres canguro en una capital del noreste de Brasil. Doce profesionales de la salud y diez madres canguro fueron entrevistados. El material empírico fue sometido a análisis temático. **Resultados:** Surgieron dos categorías temáticas: (Des) conocimiento sobre el Método Canguro y sus acciones para la continuación de la tercera etapa; y Obstáculos a la continuación de la tercera etapa del Método Canguro. **Conclusión e implicaciones para la práctica:** Se identificó el conocimiento mínimo de profesionales y madres sobre el Método Canguro, la falta de capacitación para profesionales de atención primaria, una brecha en la comunicación entre la atención primaria y terciaria. Hay discontinuidad en la atención de niños y madres canguro después del alta hospitalaria, ya que los profesionales de atención primaria no son coparticipes en el seguimiento. Conocer la realidad de la tercera etapa del método canguro permite planificar estrategias para superar las dificultades existentes para la continuidad del método y ofrecer una atención calificada e integral al binomio canguro madre-bebé.

**Palabras clave:** Método Madre-Canguro; Atención Primaria de Salud; Madres; Profesionales de la salud.

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Submitted on 03/20/2020.

Accepted on 07/28/2020.

DOI:<https://doi.org/10.1590/2177-9465-EAN-2020-0077>

## INTRODUCTION

Child health care has achieved advances that have contributed significantly to the reduction of infant mortality.<sup>1</sup> Worldwide, it is highlighted that between 1990 and 2016 the number of deaths of children under five years of age decreased from 12.7 million to 5.6 million.<sup>1</sup>

In Brazil, the decline in the neonatal mortality rate did not occur with the same intensity as in early childhood. Neonatal mortality in the country decreased from 16.7 deaths per 1,000 live births in 2000 to 9.4 deaths in 2015, with prematurity being the main cause of neonatal deaths.<sup>2</sup>

From this perspective, prematurity stands out as a worrying condition that is directly related to neonatal death. About 15 million premature babies are born each year in the world, of which one million does not survive. It is estimated that 75% of these lives could be saved with the adoption of simple and economical health care.<sup>3</sup> Thus, the availability of qualified care in prenatal, birth and post-natal care is capable of promoting neonatal survival and promoting the health and well-being of premature children.<sup>4</sup>

As a proposal to reduce neonatal mortality, the Brazilian Ministry of Health implemented the Kangaroo Method (KM). This strategy is developed in three stages, the first of which begins in prenatal care, going through labor and birth, and extends to the admission of the newborn to the Neonatal Care Unit; in the second, the mother accompanies her son full-time at the Kangaroo Neonatal Intermediate Care Unit. The third stage consists of the child's hospital discharge, with continuity of care at home and in the Primary Healthcare Unit, maintaining the link with the hospital of origin until the ideal weight for the age group has been reached.<sup>5</sup>

Throughout the stages, the KM provides numerous health benefits for premature and/or low weight children, favoring breastfeeding; adequate weight gain; the improvement of the physiological, psycho-affective and neurobehavioral response; motor and cognitive development; reduced levels of infection and readmissions; and reduced cortisol levels, child morbidity and mortality, and public health costs.<sup>6-8</sup>

In order for these benefits to be attained, it is essential to monitor the mother-baby binomial in the KM stages, but it appears that there is a gap in the continuity of the method at home. A research study with mothers of preterm newborns and/or low weight babies showed that there is discontinuity of care after hospital discharge, since only 11.6% received home visits from Primary Health Care (PHC) professionals.<sup>9</sup> Another study identified weakness in knowledge and lack of KM experience among nurses.<sup>10</sup>

It is worth highlighting that the continuity of the third KM stage depends on the maternal and family commitment, as well as on the responsibility of the hospital team and of PHC to carry out the shared care. Therefore, the commitment of Primary Care in this situation is essential to encourage the binomial to continue the method and, thus, reduce health problems for the child.<sup>11</sup>

Given the relevance of KM continuity in its third stage for implementing actions that aim to reduce neonatal mortality, as well

as the scarcity of studies that deal with the relationship between PHC and KM, this study stands out in seeking to apprehend the continuity of the assistance offered by PHC to the binomial mother-baby kangaroo. For such, the following guiding question emerged: How is the continuation of the third stage of the kangaroo method? Therefore, this study aimed to understand the continuity of the third stage of the Kangaroo Method from the perspective of mothers and health professionals in Primary Health Care.

## METHOD

This is a qualitative, exploratory-descriptive study, which seeks to understand and/or interpret the individual or collective meaning for people's lives.<sup>12</sup>

The study was developed in the Family Health Units (FHUs) belonging to the five Health Districts of João Pessoa - PB and in the homes of kangaroo mothers, from the following stages:

1<sup>st</sup> stage: Identifying the kangaroo mothers and their respective addresses in the records found at the municipal reference maternity hospital.

2<sup>nd</sup> stage: Attendance at the Health Districts to identify the FHUs where the kangaroo mothers were registered.

3<sup>rd</sup> stage: Initial contact with the FHUs. On such occasion, the physicians and nurses, responsible for monitoring the child's health, were informed about the objective of the research and invited to participate, as well as the collaboration of the health team to facilitate access to the homes of the kangaroo mothers.

4<sup>th</sup> stage: Interviews with the health professionals within the scope of the FHUs and with the kangaroo mothers in their respective homes.

The selection of the participants took place by convenience, by means of an in-person invitation made by the researchers, and had the collaboration of ten nurses, two physicians, and ten kangaroo mothers. The Physician and Nurse categories were chosen because they are the professionals of the Family Health Team who monitor the child in the FHU.

The study participants were chosen based on a few criteria: physician or nurse with employment bond or contracted who has been working at the FHU for at least six months and who had PTNB and/or low weight babies in the area covered by the unit; mothers included in the Kangaroo Method or who experienced it up to ninety days after hospital discharge, regardless of whether or not they were discharged from the Method; and mothers assigned to the FHUs in their territory.

Professionals who, during the data collection period, were licensed to work and those who did not attend to the binomial child/mother-kangaroo were excluded. As for the mothers, those with cognitive limitations that hindered the interview were excluded.

The difficulty in capturing the kangaroo mothers is highlighted, given that their identification occurred in a reference maternity hospital in the state of Paraíba, and many of them did not live in

the city where the research was conducted and, in addition, many were not located from the addresses provided at the admission time. In relation to the professionals, it was not possible to obtain good adherence from the physicians to participate in the research, considering that they refused to answer the interview, justifying that the nurse was the most capable professional to provide information on the binomial.

Data collection took place from April to June 2018 through semi-structured interviews. The script for the interview with the mothers contained the following questions: How was or is the continuation of the kangaroo method at home? In your opinion, what factors interfere or interfered with the continuity of the kangaroo method at home?

For the professionals, the following questions were used: "Report what you know about the KM.", "Tell me what you know about the third stage of the kangaroo method.", and "Tell me about the assistance you are offering to the mother/newborn binomial in the third stage of the kangaroo method.

For conducting the interviews, the environment was ensured with minimal interference caused by sound and third parties, in order to guarantee the privacy of the participants. The mean duration of the interviews was 20 minutes, and they were recorded on digital media for later being transcribed in full.

Data analysis followed the stages proposed by Minayo<sup>12</sup> for thematic analysis; therefore, the following stages were performed: the material collected in the recorded interviews was transcribed to perform the first organization of the speeches in a certain order. In this phase, the horizontal map of the material was drawn. Subsequently, in the light of the theoretical framework, as well as of the proposed objectives, an exhaustive and repeated reading was carried out, making an interrogative relationship to apprehend the relevant structures. Soon afterwards, it was possible to elaborate the categorization through cross-sectional reading. Then, from the relevance structures, the classification was reduced, regrouping the most relevant themes.

It is worth mentioning that the formal demands of Brazilian Resolution No. 466/12 of the National Health Council (*Conselho Nacional de Saúde*, CNS) as the inclusion of research participants after signing the Informed Consent that was delivered in two copies. To ensure the anonymity of the participants, the speech records were coded with the letters "N" for registered nurses and "P" for the physicians. To code the kangaroo mothers the term "Mother" was used followed by the number corresponding to the chronological order of the interview, namely: Mother 1, [...] and N1/P1, [...]. The criterion for ending the collection was saturation, that is, when the learned content was sufficient to answer the proposed objective and the information was repeated in the speeches without adding new elements about the studied phenomenon.<sup>13</sup>

This study is linked to the research project entitled "Development surveillance: paths and perspectives for nursing" approved by the Research Ethics Committee of the Health Sciences Center of the UFPB, under number of the co-substantiated opinion 2,189,497/2017.

## RESULTS

Among the twelve professionals participating in the research, ten were nurses and two were physicians, with their age ranging between 27 and 68 years old. Regarding the length of experience at the FHU, five professionals had worked for less than 10 years, six for more than 10 years, and one had 20 years of experience.

Ten mothers of premature and/or low weight children, aged between 19 and 40 years old also participated in the study. As for their professions, six mothers were housewives, two were students, and two had some formal work. Only three women were single; seven were married or in a stable relationship. Half of the mothers had only one child. The gestational age of the babies at birth ranged from 26 to 35 weeks.

Two categories emerged from the analysis of the empirical material: (Un)knowledge about the Kangaroo Method and its actions for the continuation of the third stage; and Obstacles to continuing the third stage of the Kangaroo Method.

### **(Un)knowledge about the Kangaroo Method and its actions for the continuation of the third stage**

Based on the speeches, it was possible to reflect that the monitoring of the kangaroo mothers and their children in the third stage of the KM mostly takes place in tertiary care by means of the outpatient service, until when the child reaches 2,500 grams. This is due to the guidance given by the hospital team, at the time of discharge, about KM continuity in PHC.

*What happens is that, when I left the maternity, they instructed us to return to the maternity to do all the monitoring there. (Mother 4)*

*There (maternity) they didn't say that I had to continue the kangaroo method at home, I did it because I wanted to. They didn't say anything. (Mother 5)*

In the PHC context, the professionals who work at this level of care reported what they understand about the KM, its stages and, mainly, the attribution of the service in the third stage.

*What I do know is that the kangaroo method is generally used for those mothers who need to stay in the maternity longer than pregnant women. The kangaroo mothers are those who have a premature or complicated delivery and use this method precisely to be able to initiate early breastfeeding and improve the mother's contact with the baby. (P2)*

*It is to improve the mother-baby binomial, especially the issue of humanized childbirth, right after delivery just to try to improve the baby's bond with the mother, staying together, and to clarify their doubts about breastfeeding and bring the baby closer after delivery. (P1)*

*I have basic knowledge that I see in the maternities, premature babies who are in close contact with the mother, in that little curled method and that this will bring the baby*

*to the right temperature, heartbeat, and breathing will all improve and breastfeeding. That's what I know. (N1)*

Regarding the Kangaroo Method, it is evident in the speeches that some mothers and professionals recognize some benefits and the importance for the mother-child binomial; however, it was possible to identify that, both the professionals and the mothers, reduce the method to the kangaroo position, considering them synonyms.

*(The Kangaroo position) I think it's for them to feel my heat more, to feel more that they are close to me. (Mother 8) It's a mother-child relationship [...] they develop much faster because it's a pregnancy outside the belly, they are there together skin to skin, listening to the heartbeat, the mother's voice, being breastfed for every need they may have, so I think it's very important. (N9)*

*I think it's important, the method is also very interesting and, really, I believe it's a positive factor in weight gain, in the child's development. (Mother 10)*

*When the mother and father adopt (the KM position), the child is calmer, reduces stress, the child becomes more protected, so this kangaroo method has paramount importance. (N4)*

In this context, when asked about their conduct for a premature child, the health professionals report that they reduce the interval between childcare consultations.

*It's the same, except that we reduce the appointment spacing, call the health agent, we go straight there, make the first appointment when the mother is already at home with the baby, the puerperal visit, and already make an appointment 15 days for here (FHU), there is month to month monitoring the growth and development of this child. (N5)*

*Regarding the kangaroo method itself, there is nothing specific here in the unit, but premature children can start childcare monitoring earlier, there is always the nurse's visit in the first week, but this is for everyone, if there is anything else like that she needs from me, she calls me. (P2)*

Some nurses mentioned the lack of training of the PHC professionals on KM and of communication between the unit and the maternity.

*Unfortunately, here at the end, we don't receive any training, no guidance on how the kangaroo method happens, we do know that it's a project that takes place within the maternity, however, there is no interlocution between tertiary and primary care. (N2)*

*[...] Look we had no training, no course. We didn't get to go to the hospital, it was good that we'd have an experience*

*like that in the hospital. I know what I read, that there's this preparation with the mothers of children with low weight and that's what I know, but just to see this, none of us have courses. (N8)*

### **Obstacles to continuing the third stage of the Kangaroo Method**

With regard to the KM, the care provided to the mother-baby binomial in PHC faces several obstacles that interfere with continuity of care. At first, the reports of the health professionals and of the mothers indicate the care that is offered by PHC and the commitment of their role as co-participate in the third stage of the KM.

*I only went to (Maternity X) to do the monitoring every week. (Mother 5)*

*I'm being accompanied by just one, in the maternity [...] (Mother 6)*

*I don't do much (in the KM), because if she's there in tertiary care, the big majority doesn't come back to say how she is. (N4)*

*After she left the maternity, the little assistance we provided was in relation to growth and development alone. So, checking weight, head circumference, chest circumference, was the simplest thing we could do. (N5)*

In addition, the PHC professionals also reported the absence of information about the puerperal woman and her child after delivery, making it difficult to carry out home visits. In turn, the mothers mentioned the lack of visits by the professionals.

*Usually when the mother has no help to take care of the baby, she goes to the inland and we don't know about the birth. They only stay at home when a relative comes to help, but we are still informed late. (N1)*

*I came to know after two months that she had this premature birth, because they don't communicate, they leave the area, they go to the mother-in-law's or the mother's aunt's house, and they only return to the area when the baby is already with two months, three months. So this monitoring of the kangaroo method, we don't have it. (N9)*

*I already looked for the health unit [...] I haven't received a visit from any professional yet. (Mother 6)*

*There was no visit to my home by any health professional. (Mother 4)*

Another problem exposed was the lack of communication between the health care units. This is observed when the study participants report the lack of counter-referral from the hospital service to the FHU.

*What we know is that the child was in the kangaroo method and has already left, has already been discharged, there is no counter-referral from the maternity for primary care, it appears that the process breaks there. So, when we make the puerperal visit, we realize that most of the discharge summaries are not filled out and don't come with the script they should. (N2)*

*There was no counter-referral, I came to know now from you (who have a baby kangaroo in the area covered by the FHU). (N6)*

## DISCUSSION

From the reports analyzed, it was possible to elucidate the limited knowledge of the PHC professionals and of the kangaroo mothers about the KM and that their experiences are marked by obstacles that result in the discontinuity of the KM at home. The birth of a premature baby and its hospitalization trigger in the mothers and their family core feelings of sadness and insecurity in the life and condition of the child.<sup>14</sup>

Thus, it is essential that the mother-baby binomial is integrally supported when returning home, given that the last stage of the KM begins there. Thus, the support on the part of the health professionals should occur with greater intensity in order to guide the puerperal woman, make her safer, quieter, in addition to stimulating an affective and empathic support network, valuing good behaviors and offering help when necessary.<sup>11</sup>

It is highlighted that the guidance of the puerperal woman and her family about KM should go through the entire hospitalization process, including at the time of hospital discharge.<sup>11</sup> Such guidelines are crucial to favor KM continuity in primary and tertiary care; however, it is observed in the statements of the participants that the maternity professionals refer to continuity of care for the at-risk baby only to the outpatient service, suppressing the sharing of care with the PHC.

About this, a study developed in Rio de Janeiro mentions that there is a relationship of dependence between children with special health needs and the hospital since, in the face of any adverse event after hospital discharge, they return to tertiary care. Given such facts, the tertiary service professionals justify the lack of sharing care with PHC due to the fragmentation of the Health Care Network.<sup>15</sup>

Given the vulnerable home follow-up of the child and kangaroo mother, the reports of the participants elucidated the insignificant knowledge about the Kangaroo Method, both by the health professionals and by the mothers, and the role of PHC for continuity of care. Thus, it was perceived that this problem is one of the reasons that weaken the care provided to the mother-child binomial in the last KM stage.

Corroborating the above, a study identified the superficial understanding of primary care professionals about the KM, limiting their knowledge only to skin-to-skin contact and the link provided by the method.<sup>16</sup> Another study carried out with mothers

showed superficial or even mistaken maternal knowledge about the method, by associating it only to the kangaroo position and creating a bond,<sup>17</sup> as identified in this study.

With regard to the professionals, the lack of knowledge and superficial understanding of the method reflects on their insecurity to perform the third stage of the KM.<sup>16</sup> A study carried out in Ghana with mothers of low birth weight newborns verified the lack of preparation of the health professionals and the mothers' dissatisfaction with the assistance of the health professionals, as they considered the need for better advice from the health team on primary care for newborns and on the maintenance of the mother-kangaroo method.<sup>18</sup>

From the perspective of assisting the binomial in the KM third stage, the PHC professionals reported only increasing the frequency of childcare consultations and did not mention whether they want to guide the mothers to continue the method at home, suggesting that they are unaware of the KM assumptions.

In addition to the consultations, it is essential that the professionals seek to contemplate the real needs of the mother-baby binomial, with support from the family nucleus in carrying out the actions of the Kangaroo Method at their homes.<sup>5</sup> The team of primary healthcare professionals also needs to be informed about the method, advising on the daily care of the baby and on the importance of continuing the method and the kangaroo position, even if the kangaroo mother and her child are followed-up by the maternity.<sup>4</sup>

In this direction, the professionals mentioned that they did not receive any type of training about the KM, a gap that makes it difficult to carry out the follow-up to the method in the primary care. A similar reality was found in a study developed with nurses in tertiary care, signaling the need for training for the professionals, given their superficial knowledge about the KM, its stages and proposals.<sup>19</sup> Thus, there is a need for qualification and training strategies for the PHC professionals, in order to enable the follow-up of the KM third stage with safety and accountability for care on the part of the physicians and the nurses.

According to the reports, the omission on the part of the PHC professionals at the stage that also falls under their responsibility is an alarming obstacle to the home continuity of the KM. Regarding this, a study points out the negligence of the PHC in monitoring mothers and kangaroo babies after hospital discharge and emphasizes that the discontinuity of the monitoring is worrying, considering that it generates harms to the health of the child and of the family, resulting in solitary baby care provided by the mothers, without the support of the health professionals.<sup>9</sup>

Thus, it is essential to share responsibilities among the professionals in hospital care and primary care, in order to avoid discontinuity of the method, as well as to promote the reduction of child morbidity and mortality.<sup>4</sup>

In addition, in the statements of the PHC professionals, the failure to carry out the home visit due to lack of communication stands out, especially because, in the period of data collection, all the kangaroo babies had been in their homes for more than 15 days and there were neither visits nor interventions related to

the method, which compromises the continuity of the third stage of the KM and, therefore, integrality of care.

Home visits by the primary care team are an important tool for knowledge, guidance, and teaching, especially for a mother of a premature child.<sup>4</sup> Such strategy provides the evaluation and incentive for implementing the third phase of the KM; in addition, it can contribute to the family adaptation to the premature baby, being a source of support for developing care for the newborn and reducing readmission occurrences.<sup>20</sup>

In this context, it is understood that communication between services at the time of hospital discharge would reduce the fragmentation of care and the transfer of responsibilities of the PHC professionals to the kangaroo mothers with regard to the initial contact with the service. Certainly, the sharing of care and communication between the services brings benefits both for the mothers, who will have more safety and will not feel helpless after hospital discharge, and for the health professionals, who will have support on the events about the child's health care levels used.<sup>21</sup>

In this perspective, a study carried out in Pakistan showed that the support offered by the health professionals to the mother-child binomial was considered a primary factor to ensure KM home follow-up.<sup>22</sup> Regarding this continuity of care, a research study carried out in the province of Quebec pointed out the liaison nurses as being fundamental so that the levels of health care may come to operate as a network, in an articulated and coherent manner. This is possible because the nurses develop actions focused on the needs of the patient and in conjunction with the extra-hospital services, ensuring continuity of care for the patients after hospital discharge.<sup>23</sup>

Thus, the implementation of liaison nurses in the Brazilian context emerges as a promising strategy that can minimize discontinuity of care at the time of hospital discharge.

## CONCLUSION AND IMPLICATIONS FOR THE PRACTICE

When analyzing the experiences of mothers and health professionals in the third stage of the KM, obstacles were identified that result in the discontinuity of the method at home. The speeches reveal the limited and even absent knowledge of the professionals and of the mothers on the method and its follow-up in the third stage, as well as the centralization of care for children and kangaroo mothers at the tertiary level, the fragility of the care that is shared between PHC and hospital care, the need for training and permanent education of the professionals, the gap in carrying out home visits, and the lack of communication between primary and tertiary care.

As study limitations, the inclusion of binomials from just one maternity hospital, as well as the choice of higher education categories (physician and nurse), is considered. However, the purpose was not to generalize the results, but to know the reality in depth. It is expected that this study may encourage the health professionals working at the primary and tertiary levels of care to rethink their practices in monitoring the health of premature

and/or low weight children and their families, in order to promote continuity of care in the third stage of the KM, emphasizing PHC participation and its potential. Furthermore, it is recommended to develop intervention research studies focusing on the training of the health professionals, with the purpose of identifying whether, based on knowledge, these professionals will be KM promoters at the different levels of care.

## FINANCIAL SUPPORT

Institutional Scientific Initiation Program grants funded by the National Council for Scientific and Technological Development (CNPq) granted to Anniely Rodrigues Soares and to Iolanda Carlli da Silva Bezerra, from August 2017 to July 2018, for the research entitled "Child development surveillance: paths and perspectives for Nursing", coordinated by Altamira Pereira da Silva Reichert.

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