

ORIGINAL ARTICLE

Use of Educational Material in Primary Healthcare: Picture Flipchart Applicability For Complementary Diets

Melissa Coimbra Soares¹, Camila Lehnahrt Vargas², Franceliane Jobim Benedetti³
Ana Paula Seerig⁴, Thainá Posser Rodrigues⁵, Rosiane Filipin Rangel⁶

Highlights:

1. Encouraging and using material such as flipcharts in primary healthcare aim to improve safe and up-to-date guidance on complementary diets during visits and create/strengthen bonds between professionals and users.
2. Providing permanent education to all primary healthcare professionals and using support material to encourage the exchange of experiences lead to humanized interaction, addressing users' real needs.
3. The analysis of the study results with primary healthcare professionals indicates that both the content and layout of the picture flipchart have validity for use in professional practice.

ABSTRACT

Adequate nutrition is essential for child development and growth. Hence, it is crucial to have a guidance tool that is easy to access and understand, enabling closer bonds between primary healthcare professionals and users. Flipcharts as educational tools with visual and written content support guidance on complementary feeding given to family members and caregivers of children under 2 years old. This study aimed to validate the content and layout of the picture flipchart named "Ways of presenting complementary diets for children under two years old". The study addresses the applicability of the picture flipchart on complementary feeding for primary healthcare professionals in a municipality in the central region of the state of Rio Grande do Sul. All participants considered the flipchart well illustrated and easy to understand. Concerning content description for professionals, everyone stated that it provides support and makes guidance easier. Thus, professionals considered the picture flipchart's content and layout appropriate.

Keywords: Education Continuing, Educational and Promotional Materials, infant nutrition.

¹ Universidade Franciscana- UFN. Santa Maria/RS, Brasil. <https://orcid.org/0000-0002-6257-5219>

² Universidade Federal de Santa Maria- UFSM. Santa Maria/RS, Brasil. Universidade Franciscana- UFN. Santa Maria/RS, Brasil. <https://orcid.org/0000-0002-6509-9932>

³ Universidade Federal do Rio Grande do Sul- UFRGS. Porto Alegre/RS, Brasil. Universidade Franciscana- UFN. Santa Maria/RS, Brasil. <https://orcid.org/0000-0002-3334-3910>

⁴ Universidade Federal de Santa Maria- UFSM. Santa Maria/RS, Brasil. <https://orcid.org/0000-0002-6675-1013>

⁵ Universidade Franciscana- UFN. Santa Maria/RS, Brasil. <https://orcid.org/0000-0001-5059-954X>

⁶ Universidade Federal de Pelotas- UFPel. Pelotas/RS, Brasil. <https://orcid.org/0000-0003-4059-4176>

INTRODUCTION

The Brazilian Statute of Children and Adolescents¹ provides the right of all Brazilian children and adolescents to have their growth and development followed up by health professionals. This surveillance involves various aspects, such as nutritional assessment and observation of child development milestones to evaluate learning processes and cognitive and emotional development. Moreover, not only health professionals but also parents, caregivers, and teachers are expected to be involved in this process, as this stage of life is extremely important for body formation and growth, and health interventions are more efficient in it².

Hence, the “Food guide for Brazilian children under two years old”, of the Ministry of Health, recommends including solid foods in children’s routine diet from the 6th month of life, due to their greater need for energy. Babies at this stage are already able to chew even if they do not yet have teeth; they also begin to show greater interest in food and enjoy participating in family meals. Therefore, primary healthcare professionals must know how to provide more effective guidance and intervention to health system users to promote healthy and safe complementary feeding³.

Given that adequate nutrition is essential for child growth and development, strategic guidance material that is easy to access and understand and allows for closer ties between primary healthcare professionals and users can raise awareness among all those involved in this process⁴. Flipcharts used as educational tools, with visual and written content, help guide family members and caregivers of children under 2 years old on their complementary diet. Such low-cost material encourages greater dialogue and interaction with the professional, helping them assimilate the topic⁵.

Thus, the Ministry of Health developed a flipchart named “Healthy eating for children under two years old”, based on the 10 steps of the previous edition, the “Food guide for Brazilian children under two years old”, aiming to instruct family members and caregivers on the complementary diet. This material has been an aid to health professionals in group and individual primary healthcare visits, providing health education that is easy to access and understand.

In 2019, the Ministry of Health updated the “Food guide for Brazilian children under two years old”, and, based on it, a flipchart was developed to meet the guide’s new recommendations and assist in providing primary healthcare to mothers and children. The flipchart was created as an undergraduate senior project in the Nutrition program at a private university in Santa Maria. The flipchart is intended for both professionals and caregivers of children under 2 years old, promoting cooking habits, family time, and healthy eating in this population. Thus, this study aimed to validate the content and layout of the picture flipchart named “Ways of presenting complementary diets for children under two years old with primary healthcare professionals”.

METHODOLOGY

This study is part of an anchor project entitled “Qualification of multidisciplinary health monitoring of child growth and development in the central region of Rio Grande do Sul”. It was approved under announcement DECIT/SCTIE/MS-CNPQ-FAPERGS 08/2020 – research program for SUS: Shared health management (PPSUS) and received funding from the Fundação de Amparo à Pesquisa do Rio Grande do Sul (FAPERGS). The action research with primary healthcare professionals was developed in the following eight stages: 1. Identifying the problem within the context, 2. Collecting relevant data, 3. Analyzing collected data, 4. Defining the meaning of collected data, 5. Identifying the need for changes, 6. Finding possible solutions, 7. Providing intervention/action, and 8. Transforming.

This article presents data related to stage 7, addressing the applicability of the picture flipchart for complementary diets with primary healthcare professionals in municipalities of the central region of Rio Grande do Sul. The study is based on the flipchart (Figure 1) developed with the cooperation of a photographer and designer and support from the Ministry of Health. It was constructed between July and December 2019 and was named “Picture flipchart: Ways of presenting complementary diets for children”. The material consists of a cover, index card, introduction page, and pictures of dishes from menus developed with suggested adequate amounts and textures for each phase of the child’s complementary diet (Figures 2 and 3), according to the last edition of the “Food guide for children under two years old”. The picture flipchart was officially released in April 2022, in the first class of the Nutrition program at a private university in the said municipality.

The printed material was provided to the participants, and its online version is available for free from: <https://drive.google.com/drive/folders/1BDi76730bvskLibpQEWIJKk7VRicIKc>



Figure 1: Cover of the picture flipchart.



Figure 2: Preparation of texture 1, addressing parents and/or guardians.



Figure 3: Preparation of texture 1, addressing health professionals.

The study was carried out with 30 professionals, namely: licensed practical nurses, registered nurses, dental surgeons, physicians, and community health workers, who worked in primary healthcare and family health strategy teams. The inclusion criterion was carrying out childcare activities, and the exclusion criteria were being on sick leave or leave of absence or holding only managerial or administrative positions.

Data were collected in workshops held at the nutrition laboratory of a private university, which addressed “Introducing complementary feeding” with practical and explanatory activities on the content and use of the picture flipchart. Participants were invited through a memorandum via the Municipal Health Department and Permanent Health Education Center (Nepes, in Portuguese), offering options of days and shifts scheduled for the workshops. These took place in person, over 2 days, and those who were present initially signed an informed consent form. Then, they sat in a circle to talk about the 12 steps of the “Food guide for children under two years old”, with a demonstration of foods and utensils used to feed these children, followed by a presentation and guidance on the use of the picture flipchart and menu preparation according to recommendations for the child’s age group.

During the workshop, it was agreed that participants would have 15 days to handle and use the flipchart. Then, in previously scheduled in-person interviews held at the primary healthcare and family health strategy units, they evaluated the content and material in terms of the parents’, caregivers’, and primary healthcare professionals’ understanding of the topic. The following questions were asked: 1) In your opinion, is the flipchart attractive and its language accessible to parents and/or caregivers? 2) Do you believe its recommendations on complementary diets are adequate to the users’ reality? 3) What positive aspects have you noticed by using the flipchart during healthcare? Please, describe your experience with the material during visits. 4) What is your opinion about the images and information layout in the material? 5) What is your opinion about how the content is described to professionals and to parents and caregivers?

Afterward, based on the answers to this questionnaire, participants were categorized through sociodemographic variables and assessment of the teaching material regarding its content, language, and relevance.

Ethical issues were addressed according to Resolution 466/12. The study was approved under evaluation report number 4.364.999. Confidentiality and anonymity were ensured by identifying participants according to their profession and the type of unit where they were interviewed, indicated

in the text by the letters P (physicians), RN (nurses), LN (licensed practical nurses), DS (dental surgeons), CHW (community health workers), followed by an ordinal number, according to their answers.

RESULTS

The sample comprised 30 professionals, of whom 73% were females and 27% were males, whose titles ranged from professional to bachelor's degrees in health.

Content assessment:

All participants considered the flipchart well-illustrated and easy to understand. The main answers are presented below:

Yes. Using these real images makes it easier for users to understand the instructions. (P1)

Yes, because it explains very well. The language makes it easier for those who work directly with the community to help them understand the instructions. (CHW1)

Yes, because they can have a better idea of the necessary amount and variety of food. (RN1)

Yes, the illustrations and how the instructions are described help guide the conversation. (DS1)

Yes, the material is very colorful, explanatory, and especially visual regarding the makeup of dishes for each phase. (LN1)

The data indicate that this material helps professionals provide health education. They also show that the illustrations in the material catch people's attention and help them better understand and have an idea of the correct amount of food to introduce in each phase.

Most professionals believe that the recommendations in the flipchart are adequate to the users' reality – although some responded that they were not so, due to the social and economic vulnerability of some locations. Family culture and the grandmothers' approach to the child's nutrition were other important issues:

To some extent, the culture of doing what grandmothers say, the lack of understanding, and the low income hinder them from implementing these recommendations. (LN2)

To a certain degree, there's a quite vulnerable area here, with little access to a variety of meat and vegetables. They only have access to the basics, offal, and eggs. (RN2)

Yes, they're adequate, but parents have a hard time understanding that these foods are enough to satiate their child. (LN2)

Yes, but it's not easy for them to get these foods. I always tell them the days when fruits and vegetables are cheaper. (CHW2)

Yes, because it indicates foods that the general population can obtain easily. (P2)

Concerning positive aspects, many professionals reported not using the material during visits because their daily responsibilities did not include guidance on introducing foods. Those who used it in healthcare, as reported below, highlighted that the quality of the illustrations helped them understand what foods they should offer to children and how, according to their stage.

Visualizing what is being instructed helps them understand and successfully introduce foods. The experience has been quite positive, making everything more dynamic. (P3)

(Visualizing how to prepare and serve food to children) makes it easy to illustrate to parents how to introduce a diet and how it progresses. The experience is being great; users take pictures of the preparations and handle the material. (RN3)

It is great to have visual material to show parents the adequate consistencies and amounts, how to offer the food, ideal spoons, and what should be offered separately. Some parents asked me if they could take pictures of the flipchart. (RN3)

The illustrations are a positive aspect because they make the visit easier and more effective in the hectic day-to-day demand. (P3)

Occasionally. I don't work with visits and instructions, that's the physicians' responsibility. (LN3)

I don't use it in visits. Mothers have low adherence to health promotion visits. (DS3)

I seldom use it because I work mostly with vaccination. Most children have childcare visits first when they receive these instructions. (LN3)

Assessment of the material:

Concerning the images and information layout in the material, they all stated that it is a self-explanatory and concise instrument, according to the reports:

It's very interesting and easy to interpret; it encourages communication. (CHW4)

Clear and instructive images. They contribute to comprehension during visits. (RN4)

It reached its objective through its images, demonstrating the preparations and not only describing them in writing. (CHW4)

They're very good because they're easy to understand. They're attractive for being colorful and easy to remember. The variety of preparations helps users understand. (LN4)

I think it's great; it helps me show them how to offer food at each age. (RN4)

Good, well-developed, quite visual material. Even for those who can't read, the images are self-explanatory and make it easy to understand about diets. (LN4)

Regarding the description of the content for professionals, everyone stated that the material supports and facilitates guidance. As for the presentation for users, everyone agreed that it is dynamic, didactic, easy to understand, and enlightening, as shown in the following statements:

It makes the instructions more attractive to parents and caregivers and helps and supports health professionals. (CHW5)

I like it because I don't have to take the material from the parents to have access to the explanations to professionals. (DS5)

It's adequate because its content guides professionals who aren't nutritionists. It's easy for users to understand. (DS5)

It's appropriate. Professionals of all types and levels can use it. Its language is simple and easy for users to understand. (CHW5)

It's well-explained, an additional tool for the instructions. Users: It's easier for users to understand the child's age with the picture of the preparation. Professional: It helps them give instructions, makes them more confident, and provides a basis to give instructions on introducing foods. (LN5)

It's good because parents can look at the material while professionals guide their instructions based on the guidelines in the flipchart, making information and comprehension easier for users. (RN5)

DISCUSSION

Strategies that aim to improve healthcare increase safety and enable better choices toward healthier living⁷. Hence, it is greatly important to use technology in healthcare to ensure that users

understand information more effectively and teams receive permanent education, always aiming at health promotion and prevention through more dynamic ways of spreading knowledge⁸.

The permanent education of health professionals has educational technologies to its advantage, as they help them better understand and assimilate the content. Thus, they obtain complete and more dynamic updates, and adherence to training and updating programs increases in primary healthcare. Usually, the most used educational technologies are booklets, followed by flipcharts⁹.

Educational interaction with flipcharts shows that they provide clearer information in both visual and written content. Hence, professionals can explain more easily with support material, and users understand more effectively as they listen to the instructions and see what they should do¹⁰.

The reports confirm what is highlighted in the literature concerning the use of flipcharts in primary healthcare clinical practice. Professionals pointed out the support they had from the flipchart during visits, with an easy, dynamic, and illustrative demonstration of how food should be introduced. They also stated that the material not only helps users understand but also supports their guidance and knowledge of the topic, providing permanent education in primary healthcare. It must be pointed out that nutritionists are generally the ones qualified to provide these guidelines, but they are not present in most health units in the municipality where the study was developed.

Mothers and babies are subject to many influences in breastfeeding and complementary feeding. It is essential that they have support from the family and social network for these processes to occur properly, and health professionals' attention to these aspects is necessary for the child's organized, supported, and efficient growth and development. This ensures greater adherence to visits and adequate introduction of complementary feeding¹¹.

A study conducted at two community health centers in Caetano Bezerra do Nascimento assessed the mothers' adherence to visits with nurses to monitor their children's growth and development. It identified the factors associated with such adherence and successful care, which include the bond between professionals and users – the more humanized and well-informed the professional was of the child's development, the more likely the mother was to return to future visits. Therefore, it is greatly important to outline strategies to increase the bond and efficiency of guidance between primary healthcare professionals and users¹².

Participants were also asked about the reality of families in comparison with the recommendations in the flipchart to offer the greatest variety of foods possible to children. Most professionals stated that families can put the recommendations into practice. However, some of them also highlighted that socioeconomic vulnerability and family culture impair the healthy habits of both the family and their children. In this context, the grandmothers' influence, media advertisements encouraging the consumption of ultra-processed foods, and the mothers' lack of time and understanding cause recommendations to be less accepted.

A study assessed Brazilian children's consumption of ultra-processed foods, according to 2015/2016 data from the Food and Nutrition Surveillance System (SISVAN, in Portuguese) regarding children over 2 years old attended by primary healthcare in Southern Brazil. It found a high prevalence of consumption of these foods, among which the highest averages were those of sweetened beverages, followed by instant noodles, snack foods, and cookies among children aged 2 to 4 years and 5 to 9 years. When stratified by states in the South region, the prevalence of consumption of cookies, sandwich cookies, and sweets in Rio Grande do Sul was 53.25%, which was higher than in the other ones in the South of Brazil¹³.

A study with pregnant women on educational interaction with flipcharts showed that their use made visual and verbal information clearer. Professionals can explain more easily with the support material, and pregnant women understand better as they listen to the instructions while seeing what

needs to be done¹⁴. Therefore, it is important to use material that facilitates the parents'/caregivers' understanding and supports them, increasing the bond between them and the professionals during healthcare.

Professionals reported difficulties in guiding complementary feeding due to their limited knowledge of the topic. Also, a smaller proportion of them reported this difficulty due to families' limitations in offering adequate complementary feeding to their children. On the other hand, the same professionals responded more positively to questions related to breastfeeding. This highlights the need for these professionals to pay attention to the topic of "complementary nutrition" more frequently¹⁵. Furthermore, they were aware of complementary feeding practices but were unable to explain the reasons behind them. This reinforces the need for permanent education in contexts that address complementary feeding, to provide safer and more reliable guidance to the population¹⁶.

Some participants reported that the material is a facilitator during visits to families, as it helps in health education and guides their conversation, making professionals more confident and guidance more assertive, increasing their bond. Thus, primary healthcare professionals must unquestionably receive constant training to ensure adequate and successful complementary feeding – especially CHWs, as they generally have a greater bond and understanding of families' needs¹⁷.

CONCLUSION

The analysis of aspects reported by the primary healthcare professionals who participated in the workshops and interviews demonstrate that both the content and layout of the picture flipchart named "Ways of presenting complementary diets for children under two years old" have validity for use in professional practice. Therefore, this type of material must be encouraged and used in primary healthcare to ensure safe and up-to-date guidance on complementary feeding during visits and create/strengthen bonds between professionals and users.

It is important to provide permanent education to all primary healthcare professionals and use support material and training to encourage multiprofessional exchange of experiences, updates on different topics, and a humanized interaction addressing users' real needs to ensure they understand the instructions they receive.

ACKNOWLEDGMENT

Gratitude is extended to the Municipal Department of Health of Santa Maria, Rio Grande do Sul, and the Fundação de Amparo à Pesquisa do Estado do Rio Grande do Sul (FAPERGS).

REFERENCES

- ¹ Lei nº 8069, de 13 de julho de 1990. Dispõe sobre o Estatuto da Criança e do Adolescente e dá outras providências. Diário Oficial da República Federativa do Brasil, Brasília, DF, 16 de jul. 1990. [citado: 18, abr, 2022]. Disponível em: <<https://www.gov.br/mdh/pt-br/navegue-por-temas/crianca-e-adolescente/publicacoes/o-estatuto-da-crianca-e-do-adolescente>>
- ² Universidade aberta do SUS (BR). Promoção do aleitamento materno e da alimentação complementar saudável na atenção primária. Amamenta e alimenta Brasil; recomendações baseadas no guia alimentar para crianças menores de dois anos. Universidade Federal de Santa Catarina, Florianópolis, Santa Catarina, 2020 [citado: 18, abr, 2022]. Disponível em: <https://www.unasus.gov.br/cursos/historico_educacional>.
- ³ Ministério da Saúde(BR). Secretaria de Atenção Primária à Saúde. Departamento de Promoção da Saúde. Guia alimentar para crianças brasileiras menores de 2 anos / Ministério da Saúde, Secretaria de Atenção Primária à Saúde, Departamento de Promoção da Saúde. Brasília : Ministério da Saúde, 2019. [citado: 25, mar, 2022]. Disponível em: <http://189.28.128.100/dab/docs/portaldab/publicacoes/guia_da_crianca_2019.pdf>.

- ⁴ Palombo CNT, Fujiima E, Toriyama ATM, Duarte LS.. Capacitação em aconselhamento nutricional: avaliação de conhecimento e aplicabilidade na atenção à saúde da criança. *Revista Brasileira de Saúde Materno Infantil*, v. 18, p. 67-74, mar, 2018 [citado: 05 abr, 2022]. Disponível em: <<https://www.scielo.br/j/rbsmi/a/69mVpbs6N5csBw-Q3LQFSgIn/abstract/?lang=pt>>.
- ⁵ Dias ICCM, Santos NS, Moura JA, Silva JS, Costa PSS, Ferreira AGN. Álbum seriado: construção e intervenção educativa com gestantes atendidas no Nordeste do Brasil. *Cultura*, v. 14, p. 16, nov, 2018 [citado 03, abr, 2022]. Disponível em: <<http://www.index-f.com/para/n28/pdf/e179.pdf>>.
- ⁶ Ministério da Saúde (BR). Alimentação saudável para crianças menores de dois anos: álbum seriado. Brasília: Ministério da Saúde, ed. 1, p. 1-37, out, 2011 [citado: 25,mar, 2022]. Disponível em< <https://aps.saude.gov.br/biblioteca/visualizar/MTI4OA==>>.
- ⁷ Luz LKM, De Azevedo GR. Avaliação de um programa de capacitação de agentes comunitários de saúde. *Revista da Faculdade de Ciências Médicas de Sorocaba*, v. 17, n. 4, p. 193-198, 2015 [citado: 03,abr, 2022]. Disponível em: <<https://revistas.pucsp.br/RFCMS/article/view/22200>>.
- ⁸ Uchoa YLA, Pessoa AA, Araújo CSS, Sousa MVT de, Portela MJ da S, Lemos AL, Costa Junior NF da, Pinto MCP, Lima F da S, Lobato JE da S, Bezerra LO, Maia DC da S, Oliveira TP de, Mendes IBR, Rosa STP da. Use of technologies for health education in Primary Care: integrative literature review. 2021 Dec.12 [cited: 03, abr,2022]. Available from: <<https://rsdjournal.org/index.php/rsd/article/view/23909>>.
- ⁹ Silva R de C, Paiva ED, Vettori TNB. Educational technologies and health education: management of central venous catheters by nurses. 2022,mar,28 [cited:03, abr, 2022]. Available from: <<https://rsdjournal.org/index.php/rsd/article/view/27952>>.
- ¹⁰ -14 Maia ICC, Dos Santos NS, Moura JA, Da Silva JC, Costa PSS, Ferreira AGN. Álbum seriado: construção e intervenção educativa com gestantes atendidas no Nordeste do Brasil. *Cultura*, v. 14, p. 16, nov, 2018[citado: 03, abr, 2022]. Disponível em: <<http://www.index-f.com/para/n28/pdf/e179.pdf>>.
- ¹¹ Promoção do aleitamento materno e da alimentação complementar saudável na atenção primária. Amamenta e alimenta Brasil; recomendações baseadas no guia alimentar para crianças menores de dois anos. Curso EAD - UNASUS. Universidade Federal de Santa Catarina, Florianópolis, Santa Catarina, 2020[citado: 18, abr, 2022]. Disponível em: <https://www.unasus.gov.br/cursos/historico_educacional>.
- ¹² Rodrigues DA, Souza MD, Silva FJS, Carvalho DPSRP, Bezerra STF, Gomes JGN. Avaliação da adesão às consultas de crescimento e desenvolvimento infantil. *Rev. enferm. UFPE on line*, v.13, n.2, p. 1023-1029,05, abr, 2019 [citado em: 05, abr,2022]. Disponível em: <<https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/238262/31801>>.
- ¹³ Libano IFF, Correa RS, Moteiro AS, Vallandro JP. Consumo de alimentos ultraprocessados em crianças atendidas pelo serviço de Atenção Básica na região Sul do Brasil. *International Journal of Nutrology*, v. 12, n. 01, p. 035-040, 2019 [citado em 08, nov,2022]. Disponível em: <https://www.thieme-connect.com/products/ejournals/html/10.1055/s-0039-1693673>
- ¹⁵ Santos FS; Mintem GC, Gigante DP. O agente comunitário de saúde como interlocutor da alimentação complementar em Pelotas, RS, Brasil. *Ciência & Saúde Coletiva*, v. 24, p. 3483-3494, 2019. [citado em: 05,abr,2022]. Disponível em: <<https://www.scielo.org/article/csc/2019.v24n9/3483-3494/pt/>>
- ¹⁶ Correia PP, Pereira SMPD; De Brito LAMH. Alimentação de transição infantil: conhecer para educar. *Ciência & Saúde*, v. 6, n. 2, p. 85-93, agr, 2013. [citado em:03,abr,2022]. Disponível em: <<https://revistaseletronicas.pucrs.br/index.php/iberoamericana/N%C3%83%C6%92O%20https://www.scimagojr.com/index.php/faenfi/article/view/11139>>
- ¹⁷ De Oliveira APDN, Rodrigues DF, Zwaal GI, Andrade RG. Capacitação dos agentes comunitários de saúde em aleitamento materno e alimentação complementar no âmbito da atenção primária, em Belo Horizonte, Minas Gerais. *Revista de APS*, v. 17, n. 1, p. 106- 110, mar, 2017. [Citado em: 03, abr,2022]. Disponível em: <<https://periodicos.ufjf.br/index.php/aps/article/view/15242>>.
- ¹⁸ Reis PMD, Seerig AP, Benedetti FJ, Vargas CL. Álbum seriado fotográfico: formas de apresentação da alimentação complementar para crianças, 2021. [citado em: 08, nov,2022].

Submitted: May 19, 2023

Accepted: July 21, 2023

Published: February 22, 2024

Authors' contributions:

Melissa Coimbra Soares: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Validation; Data presentation design; Writing – original draft.

Camila Lehnhart Vargas: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Validation; Data presentation design; Writing – original draft; Writing – review & editing; Supervision.

Franceliane Jobim Benedetti: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Validation; Data presentation design; Writing – original draft; Writing – review & editing; Supervision.

Rosiane Filipin Rangel: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Validation; Data presentation design; Writing – original draft; Writing – review & editing; Supervision.

Ana Paula Seerig: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Resources; Validation; Data presentation design; Writing – original draft; Writing – review & editing; Supervision.

Thaína Posser Rodrigues: Data curation; Formal analysis; Investigation; Methodology; Project administration; Resources; Validation.

All authors approved the final version of the text.

Conflict of interest: The authors report no conflict of interest.

This article was developed based on the anchor project named “Qualification of multidisciplinary health monitoring of child growth and development in the central region of Rio Grande do Sul”, which was approved under announcement DECIT/SCTIE/MS-CNPQ-FAPERGS 08/2020 – research program for SUS: Shared health management (PPSUS) and received funding from the Fundação de Amparo à Pesquisa do Rio Grande do Sul (FAPERGS).

Corresponding author:

Melissa Coimbra Soares

Universidade Franciscana- UFN

R. dos Andradas, 1614- Centro, Santa Maria- RS, Brasil. CEP 97010-030

E-mail: melissa.coimbra@ufn.edu.br

Editor: Dr. Giuseppe Potrick Stefani

Editor-in-chief: Dr. Adriane Cristina Bernat Kolankiewicz

This is an open access article distributed under the terms of the Creative Commons license.

