

 Thainá Lobato Calderoni¹
 Yasmin Garcia Ribeiro¹
 Mônica Feroni de Carvalho¹
 Elizabeth Accioly²
 Naiara Sperandio¹
 Jane de Carlos Santana Capelli¹

¹ Universidade Federal do Rio de Janeiro, Centro Multidisciplinar UFRJ-Macaé, Curso de Nutrição. Macaé, RJ, Brasil.

² Universidade Federal do Rio de Janeiro, Instituto de Nutrição Josué de Castro, Departamento de Nutrição e Dietética. Rio de Janeiro, RJ, Brasil.

Correspondence

Thainá Lobato Calderoni
tic.thaina@gmail.com

Construction and validation of an educational material as a strategy to promote proper and healthy food in Primary Care

Construção e validação de um material educativo como estratégia de promoção da alimentação adequada e saudável na Atenção Básica

Abstract

Introduction: Educational and didactic materials available at the Primary Care units are important strategies to promote health and food and nutrition education. **Objective:** To present the construction and validation process of an educational material about feeding of children under the age of two years, designed to healthcare professionals. **Method:** a quantitative study was carried out with a design structured in two stages: construction and validation of the educational material. The construction process was based on a literature review and practical activities developed with mothers and health professionals in primary care units in the city of Macaé- RJ. For validation, the educational material was sent by e-mail to specialists and, likewise, after adjustments, to a panel of judges. Arithmetic means were calculated, having the score ≥ 7 as the cutoff point of each item to verify the assigned importance/adequacy and standard deviations. The cutoff value of < 3 was set to estimate the degree of consensus among specialists and judges. **Results:** The miniguide has three thematic modules: Breastfeeding, Complementary Feeding – Parts 1 and 2. In the validation by specialists, the mean value(\pm SD) was 8.5(\pm 1.2), and they all consensually considered the material important/appropriate; by judges, the mean value(\pm SD) was 9.9(\pm 0.3), being consensually considered important/appropriate. **Conclusion:** All evaluators in consensus agreed that the miniguide was “important/appropriate”.

Keywords: Baby feeding. Complementary Feeding. Health Promotion.,.

Resumo

Introdução: Os materiais educativos e didáticos distribuídos na Atenção Básica constituem importantes estratégias de promoção da saúde e de Educação Alimentar e Nutricional. **Objetivo:** Apresentar o processo de construção e validação de um material educativo sobre a alimentação de crianças menores de dois anos, dirigido aos profissionais de saúde. **Método:** Realizou-se estudo quantitativo com delineamento estruturado em duas etapas: construção e validação do material educativo. O processo de construção do material educativo se deu a partir da revisão da literatura e das atividades práticas desenvolvidas com mães e profissionais de saúde das unidades de saúde no município de Macaé-RJ. Na validação, o material educativo foi encaminhado por *e-mail* aos especialistas e, da mesma forma, após ajustes, enviado aos juízes. Calcularam-se as médias aritméticas, tendo como ponto de corte a nota ≥ 7 de cada item para verificar a importância/adequação atribuída e os desvios-padrão, tendo como ponto de corte o valor < 3 para estimar o grau de consenso entre os especialistas e juízes. **Resultados:** O miniguia apresenta três módulos temáticos: Aleitamento materno, Alimentação Complementar partes 1 e 2.

Na validação pelos especialistas, a média(\pm DP) foi 8,5(\pm 1,2), sendo o material considerado importante/adequado e consensuado por todos; pelos juízes, a média(\pm DP) foi 9,9(\pm 0,3), sendo considerado importante/adequado e consensuado por todos. **Conclusão:** O miniguia foi considerado “importante/adequado” e consensuado pelos avaliadores.

Palavras-chave: Alimentação Infantil. Alimentação Complementar. Promoção da Saúde.

INTRODUCTION

Infant feeding can initiate with breastfeeding, still in the delivery room, preferably within the first hour of birth.¹⁻³ Exclusive breastfeeding (EBF) until the age of six months (and complemented for up to two years of life or over), followed by the introduction of complementary feeding (ICF), are recommended by the *Ministério da Saúde (MS)* (Ministry of Health) for being considered an appropriate and timely influence on infants' nutritional status to ensure their full growth and development^{4,5} as well as the creation of future healthy habits in the adult life.⁶

In the 21st century, in spite of the importance given by the World Health Organization (WHO) and the MS to EBF and recommendations for ICF in the first year of life, Brazilian studies show that in diverse regions improper foods are still offered to children under two years of age, especially in the first six months of life.⁷⁻¹⁰

In the municipality of Macaé-RJ, Bouskelá et al.,¹¹ in a time-series study that examined the evolution of EBF prevalence rates at the age of four months, between 2001 and 2015, based on 56,454 records from the *Departamento de Informática do Sistema Único de Saúde/ Ministério da Saúde/ Sistema de informação da Atenção Básica/ Sistema Único de Saúde (DATASUS/SIAB/SUS)* (Department of Information of the Unified Healthcare System/ Primary Care Information System/ Unified Healthcare System), revealed that EBF had a statistically significant increase from 47.2% to 69.0% between 2001 and 2004. In the following period, the EBF prevalence rates at the Primary Health Care (PHC) unit in Macaé showed a nonsignificant statistical variation, with a maximum of 76.8% in 2013 and an average yearly rate of 71.4% in the last 10 years.

Marinho et al.,¹² in a secondary study with data from the SISVAN website with 218 children aged 6 to 24 months observed a high consumption of unhealthy foods such as sugar-rich foods (honey, molasses, simple sugar and brown sugar; 28.4%), processed juice (50.5%) and sodas (36.7%).

Given this scenario, numerous strategies and actions for health promotion and food and nutrition education (FNE) focused on the mother-child group have been developed in Brazilian public policies to promote and encourage healthy, appropriate and timely diets for this population.^{4,6,13} One of the strategies for health promotion and FNE is to develop and distribute educational and didactic materials, which are key instruments for the disclosure of knowledge and practices developed in different territories,¹⁴ and can be used by health providers in their professional practice aiming to guide caregivers on diverse topics such as feeding in the first years of life.¹⁵

In Macaé-RJ, FNE actions targeted to the mother-child audience and health professionals have been developed by the *Coordenadoria da Área Técnica de Alimentação e Nutrição (Catan)* (Technical Coordination for Food and Nutrition) in a partnership with the university extension project "*Incentivo à Alimentação Complementar Adequada voltada aos Lactentes assistidos na Rede de Atenção à Saúde do Município de Macaé*" (Encouragement to Proper Complementary Feeding for Infants Assisted by the Primary Health Care in Macaé), known as IACOL project, developed at the Federal University of Rio de Janeiro, Campus UFRJ-Macaé Professor Aloísio Teixeira, eight years ago. One of the actions was the creation of waiting rooms at PHC units and distribution of educational materials for mothers that use the primary care units (PCU) as well as for professionals who work there. During these experiences in service, the IACOL team was urged to develop a more elaborate educational material to meet the needs of both PHC professionals and users on the topic "Feeding in the two first years of life with an emphasis on complementary feeding".

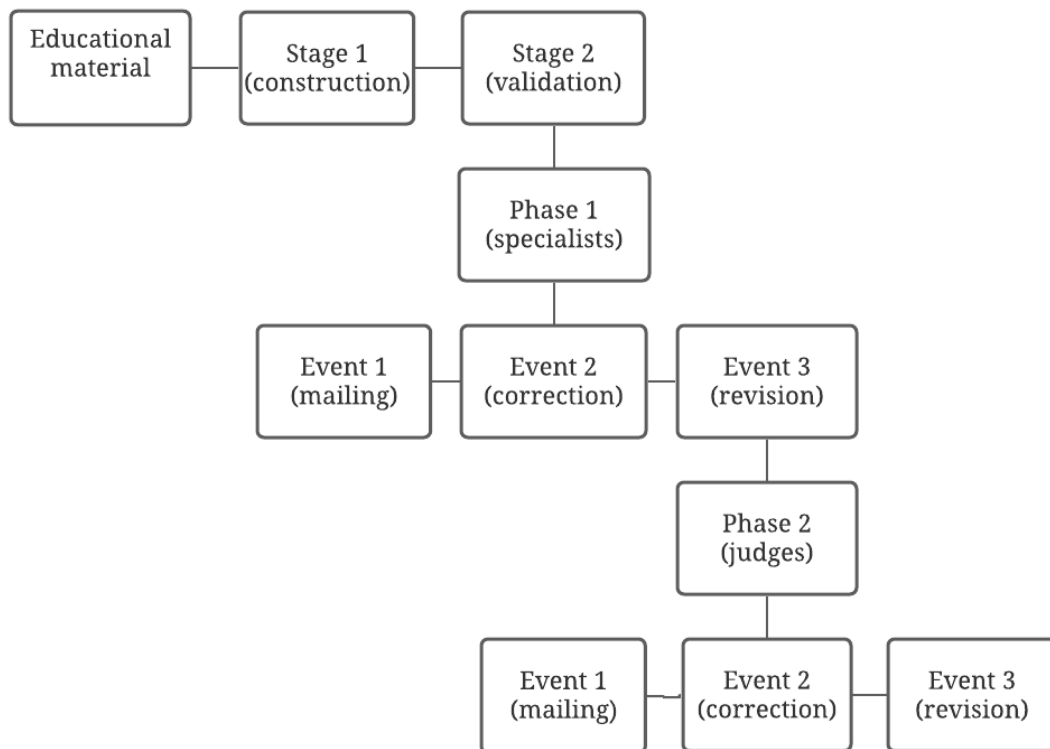
In this context, this study aims to present the construction and validation process of an educational material for health professionals with dietary guidelines for children under two years of life with a focus on complementary feeding.

METHODS

A quantitative study with a two-stage structured design was carried out. The first stage consisted of building an educational material initially devised as a booklet on healthy diets for children under the age of two years, with emphasis on the introduction of complementary foods. The second stage consisted of the validation of the material in two phases: (a) phase 1 – by specialists in different areas of Nutrition; (b) phase 2 – by judges, higher education students participating in a research project and extension in the area of mother-child health and nutrition (Flowchart 1). A third stage of validation was initially conceived, involving mothers who were users of the PHC unit, but was discontinued because of the health crisis caused by the COVID-19 pandemic.

The present study is part of the research project named “Breastfeeding and Feeding in Primary Health Care in Macaé-RJ”, linked to the *Núcleo de Ações e Estudos em Materno-Infantil (NAEMI)* (Center for Mother-Child Studies and Actions) of UFRJ-Macaé, approved by the Research Ethics Committee of the Medical School of Campos dos Goytacazes/RJ, in 2014, with number CAAE nº 30378514.1.0000.5244.

Flowchart 1. Construction and validation process of the educational material



STAGE 1. Construction process of the educational material

A literature survey was conducted on the databases of the Virtual Health Library (VHL), Medline of the Virtual Health, Latin American and Caribbean Health Sciences Literature (Lilacs), Scientific Electronic Library Online Brazil (Scielo Brazil), and PubMed, in addition to technical information available on the websites of the MS, of the *Sociedade Brasileira de Pediatria (SBP)* (Brazilian Society of Pediatrics), and Pan-

American Health Organization (PAHO)/WHO. The searches on the databases initiated in June 2019, using descriptors in Portuguese language from the website *Descritores em Ciências da Saúde (DeCS)* (Descriptors in Health Sciences) and Medical Subject Headings (MESH): Feeding, Complementary Feeding, Child Feeding, Child, Infant, and Feeding Practices. We selected the articles that addressed the construction process of educational materials, epidemiological studies focused on nutrition of children under two years, as well as dietary guidelines and texts containing definitions, concepts, laws and regulations on the subject.

The content of the educational material was structured into thematic modules (Breastfeeding, Complementary Feeding - Parts 1 and 2) based on the literature review and experiences obtained by the IACOL project team in waiting rooms and workshops with pregnant, postpartum and nursing women, infant caregivers, undergraduates from different health areas, the community in general and health professionals, carried out at the PCU and FHS (Family Health Strategy) units in Macaé. The material was built as recommended for a well-planned design and efficacy of educational materials, based on the following attributes: content, language, illustrations, layout, motivation and culture.^{16,17}

The language, layout and illustration of the booklet were devised to be easily understood and grasp the interest of the target audience. The images were obtained from the IACOL project files and the personal collection of the researcher of this study. Some images were provided by mothers and caregivers to the researcher, after their permission by signing the term of assignment of rights, previously sent by e-mail.

Initially, the booklet was built on the Microsoft® PowerPoint for Windows 2020. After construction, the booklet was subjected to an illustration and design professional to develop the layout, formatting, typesetting and illustrations.

STAGE 2. Validation process of the educational material

Phase 1

The validation of the booklet content was carried out using the consensus development method adapted from Ferraro et al.,¹⁸ Souza et al.,¹⁹ Murphy et al.,²⁰ as proposed by Ribeiro & Spadella,¹⁵ aiming to “reach a mutually agreed decision two or more parties, reconciling open discussions and the anonymity of the experts, in viable logistics”. Phase 1 was structured according to three events.

Event 1

The preliminary version of the booklet was sent by e-mail to a team of seven professionals considered specialists in different areas of nutrition (Chart 1) for assessment, by convenience sampling, comprising four teachers with a PhD degree in different fields of Nutrition and three dietitians from the PHC in Macaé.

Chart1. Characterization of the specialists invited to participate in the study. May, 2020

Specialists	Education level	Field of activity / time of service
Spec 1	Dietitian graduated from the Universidade Federal Fluminense. MS degree in Primary Health Care from the Universidade Federal do Rio de Janeiro (UFRJ).	Collective Health (17 years)/ <i>Secretaria de Atenção Básica/ Secretaria Municipal de Saúde</i> (SEMUSA) (Primary Care Dept / City Health Dept.)
Spec 2	Dietitian graduated from the Universidade do Estado do Rio de Janeiro (UERJ). PhD in Sciences (UERJ).	Mother-child (10 years).
Spec 3	Dietitian	Food and Nutrition Education and Clinical Nutrition (19 years).
Spec 4	Dietitian graduated from UFRJ. PhD in Nutritional Sciences from UFRJ. MS degree in Human Nutrition (UFRJ).	Collective Health (12 years).
Spec 5	Dietitian graduated from UFRJ. PhD in Food, Nutrition and Health from UERJ. MS degree in Human Nutrition (UFRJ).	Collective Feeding and Dietetic Technique (10 years).
Spec 6	Dietitian graduated from UFRJ.	Clinical Nutrition and Mother-Child Nutrition (20 years).
Spec 7	Dietitian. PhD in Sciences and Health Education, Center for Educational Technology for Health from the Universidade Federal do Rio de Janeiro (UFRJ). MS degree in Food, Nutrition and Health (UERJ).	Dietary and Nutrition Education in Collective Health (7 years).

Source: Developed by the authors.

Eligibility criteria were as follows: working in the area of nutrition, with expertise in mother-child nutritional assistance, collective health or dietetics technique and seven years of minimum experience time.

Together with the booklet was sent the Free and Informed Consent Term and the instrument of assessment of the educational material. The specialists were asked to read the material carefully, send contributions and suggestions, and return by e-mail within 15 days.

The instrument of assessment of the educational material was developed with adaptations from the instrument of Sousa & Turrini,¹⁶ containing the following assessment categories, subdivided into various items of analysis: content, language, illustrations, layout, motivation and culture, with a scale of scores ranging from zero to ten for each item. The instrument had a box designed for the specialists to write down their suggestions, comments, and contributions.

Event 2

Based on the specialists' contributions, corrections were made in the booklet and, as suggested by some of these evaluators, it passed to be called "miniguide" on healthy diets for children under the age of two years, with emphasis on the introduction of complementary feeding, which was considered a good

synthetized extract from the *Guia Alimentar para Crianças Brasileiras Menores de Dois Anos* (Dietary Guidelines for Brazilian Children under the Age of Two Years).²

The scores of each item were transferred to an Excel spreadsheet (Microsoft, Corporation, USA). The arithmetic means of each item were calculated to determine the importance/adequacy assigned and standard deviations to estimate the degree of consensus between the specialists.¹⁸

The following cutoff points were adopted: mean ≥ 7 as an important/appropriate item; mean < 7 as a little important/appropriate item; standard deviation < 3 as a consensual result, and standard deviation ≥ 3 as non-consensual result, adapted from Souza and collaborators.¹⁹

Event 3

The points in agreement in the observations made by the specialists as well as their suggestions were considered in the revised miniguide, and at this time a final revision of the educational material was carried out to be sent to the judges.

Phase 2

The revised miniguide, the instrument of assessment and the Informed Consent Form were sent by e-mail for reading, contributions and suggestions by the judges ($n=10$), comprising nutrition and medicine undergraduates from UFRJ-Macaé and who integrated the extension and research project in mother-child health area and worked in this field of knowledge (event 1). The undergraduates of the study were selected at random and signed the Informed Consent Form as participants of this research stage.

The contributions of the judges and, afterwards, the scores given to each item of the forms were entered into an Excel spreadsheet (Microsoft, Corporation, USA). Arithmetic means and standard deviation of each item were calculated.¹⁸ The same cutoff points, as described above, were adopted (event 2).

The miniguide had a final review/proofreading by the main researcher (event 3), when at least three recurrent statements of different specialists (43.0%) and four statements of the judges (40.0%) were considered for the final revision of the educational material.

In this study, for preparation of the results, some of the main statements were included in the manuscript, and the authors took steps to protect the participants' identity using codenames.

RESULTS

The process of construction and validation of the miniguide was carried out from May 2018 to Dec. 2020, based on the literature review, the experiences and insights built up during the actions developed by the IACOL project at the *Rede de Atenção à Saúde (RAS)* (Primary Healthcare Network) in the city of Macaé. The miniguide is entitled "Feeding your baby – a miniguide with basic guidelines for proper food choices" and has three thematic modules (Breastfeeding; Complementary Feeding – Parts 1 and 2) and their headings, in a total of 47 pages with illustrations.

With respect to the validation by specialists, the mean value found (\pm SD) was $8.5(\pm 1.2)$ for the content, language, illustrations, layout, motivation, and culture of the items assessed, and the educational material was in consensus considered "important/appropriate" by the specialists (Table 1).

Table 1. Means and standard deviations of the assessed items of the miniguide as scored by the specialists, according to the validation stages. Macaé-RJ, May to July, 2020 (n=7).

Assessed items	Mean±SD
Content	
The content, i.e., the information provided by the miniguide, is relevant to promote healthy feeding of children under the age of 2 years.	10.0±0.0
The content is appropriate for the target audience (mother and caregivers or children under 2 years of age).	9.1±0.8
The content is sufficient to meet the needs of the target audience.	9.6±0.7
The content is easily applicable in the daily lives of the target audience.	9.6±0.7
Language	
The writing style is appropriate for the target audience.	8.7±1.4
The writing used is attractive.	8.3±1.9
The language is clear and objective.	8.7±2.1
Illustrations	
The illustrations are relevant to the content and elucidate this content.	8.9±2.1
The illustrations are clear and contribute to a better understanding.	9.6±1.0
The quantity of illustrations is adequate for the content of the support material.	9.9±0.3
Layout	
The font used makes reading easier.	9.9±0.3
The colors used in the text are pertinent and facilitate reading.	9.7±0.7
The visual composition is attractive and well displayed.	9.7±0.7
The format (size) of the support material and the number of pages are suitable.	10.0±0.0
The text arrangement is suitable.	9.7±0.7
The font sizes in the titles, subtitles and texts are suitable.	9.9±0.6
Motivation	
The content is motivating and encourages readers to continue reading.	9.4±1.0
The content creates interest in readers.	9.3±1.4
The content answers questions and clarify doubts and educates the audience.	9.0±2.4
Culture	
The text is compatible with the target audience meeting different knowledge profiles.	8.3±2.2
Overall mean value	8.5±1.2

Source: Developed by authors.

In the validation stage conducted by the specialists, the aspects relating to content, language, illustrations, layout, culture and motivation/praise were signaled. With respect to content, it was identified the need to add, complement and rewrite some points, for example,

Attention should be given to the list of ingredients on the food labels. Will you give any instruction to read the label? (Spec 3)

For instance, family members and friends could give a hand in cleaning the house, cooking foods, doing the laundry, so that the mother can dedicate her time to breastfeeding and not be overwhelmed with domestic chores. It is common that women in the suburbs have the support of people that are not family [...]. (Spec. 7)

Suggestion for the banana cake – remove sugar (see recommendations for foods for children under 2 years) and replace it with grated apple. If the banana is ripe there is no need to add sugar for the baby's taste (zero sugar addicted). (Spec. 5)

About language, there was the need to improve dialogue, diminish and replace some of the terms presented.

The word infant could be replaced by baby. This would standardize the language in the material and could be better understood by the public in general. (Spec. 2)

I think that some verbs and conjugations bring an idea of giving an order: must, for example. Words such as satiety, season, nutritional composition, monotony ... may not communicate. (Spec. 7)

Regarding illustrations, it was necessary to include images that would better characterize the profile of the nursing mother and baby attended by the health professional at the PHC of Macaé, with respect to ethnicity/race/skin color.

[...] Two photos of women breastfeeding: two white, straight-haired women. If we think of the people who will receive this material, it is important for communication that they feel included in this material [...]. You should consider black mothers, black children, black relatives, a family. (Spec. 5)

There were also suggestions to improve the layout, in order to highlight it and make reading more pleasant. So, images were then included based on these considerations.

In section 2.2. you should consider to highlight some information in the booklet with different color and the word TIP, ATTENTION. In section 4.6, I think you should enlarge the space between lines in the text to separate them a little more. There is no need to be a 1.5 space but 1.15 would help view the text. (Spec. 3)

[...] the images of the food dishes were more than perfect. I suggest that the pie chart (pg. 12) be changed into a plate with food [...]. It might be interesting that the colors of the headings were the same when the topics are within the same dimension. For example: blue for breastfeeding, (...). (Spec. 7).

Finally, there was the suggestion to include culture-related matters, such as:

Maybe you could suggest to privilege local producers over the big markets by agroecological reasons, and that a given food travelled less road, is fresher, and the local economy issue. Perhaps you could suggest to give preference to local vendors, the small street markets in the neighborhood. (Spec. 5)

It is worth noting that many praises/motivation were given by the specialists, some of them as follows:

Excellent material! Beautiful, attractive, interesting, comprehensive and with in-depth discussions about the topic chosen for the research. (Spec. 1)

This material will be very useful, it is very objective, it is like an extract from the guide (an extract, really), I think that it can inspire dietitians and also end up on the mothers' hands, and be able to communicate in a broad way, inclusively, through this mirroring [...] Congratulations, beautiful work. It is very beautiful, really necessary, very objective. [...] it will be very useful. (Spec. 5)

In the validation conducted by the team of judges, the overall mean (\pm DP) was 9.9 (\pm 0.3) of the assessed items, being consensually considered “important”/“appropriate” by the judges (Table 2).

Table 2. Means and standard deviations of the assessed items of the miniguide as scored by the judges, according to the validation stages. Macaé-RJ, Sept., 2020 (n=10).

Assessed items	Mean \pm SD
Content	
The content, i.e., the information provided by the miniguide, is relevant to promote healthy feeding of children under the age of 2 years.	10.0 \pm 0.0
The content is appropriate for the target audience (mother and caregivers or children under 2 years of age).	10.0 \pm 0.0
The content is sufficient to meet the needs of the target audience.	9.5 \pm 0.5
The content is easily applicable in the daily lives of the target audience.	9.5 \pm 0.4
Language	
The writing style is appropriate for the target audience.	10.0 \pm 0.0
The language used is attractive.	10.0 \pm 0.4
The language is clear and objective.	10.0 \pm 0.6
Illustrations	10.0 \pm 0.0
The illustrations are relevant to the content and elucidate this content.	10.0 \pm 0.0
The illustrations are clear and contribute to a better understanding.	10.0 \pm 0.0
The quantity of illustrations is adequate for the content of the support material.	10.0 \pm 0.3
Layout	
The font used makes reading easy.	9.5 \pm 0.4
The colors used in the text are pertinent and facilitate reading.	10.0 \pm 0.6
The visual composition is attractive and well displayed.	10.0 \pm 0.0
The format (size) of the support material and the number of pages are suitable.	9.5 \pm 0.3
The text arrangement is suitable.	10.0 \pm 0.3
The font sizes in the titles, subtitles and texts are suitable.	10.0 \pm 0.6
Motivation	
The content is motivating and encourages readers to continue reading.	9.5 \pm 0.3
The content creates interest in readers.	9.5 \pm 0.4
The content answers questions and clarify doubts and teaches the audience.	9.0 \pm 0.6
Culture	
The text is compatible with the target audience meeting different knowledge profiles.	9.0 \pm 0.6
Overall mean value	9.9\pm0.3

Source: Developed by authors.

In the miniguide validation by the judges, already with the changes recommended by the specialists, it was indicated the need to improve language and layout. With respect to language, the judges indicated the existence of repetitions of terms used in the text, such as:

Repetition of words such as “mother”, “baby” may sometimes make reading tiresome. (Judge 9)

With respect to layout, there were suggestions such as:

Slightly enlarge the orange band on the cover to better fit all authors’ names; in the second page, in pink [...] I noticed that there is much space between the texts; I have the habit of using an indentation in the first line of each paragraph [...], I missed this, but I believe it is not mandatory, it was just an observation because of the habit that I have. I even checked this in the 2019 Guidelines and it is like yours. (Judge 6)

The miniguide received many compliments from the judges, which indicates the quality and contribution of this material to PHC's health professionals:

Congratulations for your work. Excellent material, easy to understand, pleasant, and a very good layout [...]. (Judge 1)

The points that I considered more evident are the importance of the content to society, and the language that is clear and accessible to everyone. (Judge 10)

After reviewing the educational material, at each stage of validation, a final revision by the researcher was conducted, and the material was sent to final graphic design and layout. In parallel, elements of the miniguide such as title, authors, city, place of publication, year of publication, publisher, number of pages, size, keywords, library and librarian, were sent to the library of UFRJ-Macaé to prepare the bibliographic information page (cataloging data).

The final version of the miniguide was submitted to the publishers at the *Observatório da Cidade de Macaé* (Observatory of the City of Macaé), and it was approved to be available in the form of e-book, pdf format,²¹ at the website of the Observatory itself.

DISCUSSION

The miniguide was built and validated in a period of 31 months. For validation, seven specialists and ten judges examined it and, according to the results, they consensually considered the educational material "important/appropriate". The first considerations of the specialists were about content, language, illustrations, layout and culture, e.g.: to include information on nutrition labeling, sharing of domestic chores; make the material more accessible to the population by means of dialogue; add images of black women and children; use color and highlights to stimulate reading by users; include fresh spices and foods purchased from local neighborhood markets into the dishes. The main comments of the judges were on language and layout, such as grammar and spell check, repetition of some words, and suggestions for layout.

The educational material is one of the methods used in health teaching/learning process²² and can be used to promote health-related actions aimed to different populations. This is because it is a tangible method for both educators and learners (target audience), with content presented in a simple way, with information that can easily be viewed and understood, thus contributing to the assimilation of the topic proposed to the public after an educational action.²³

From this perspective, the content of the educational material must be defined based on its initial proposal (What is the purpose of the infographic? What do you want to convey to the reader?); on the information content (What information is needed to accomplish the goal?); resources (human and material); production means (How will it be developed? Illustrations? Photos? Which computer programs?); users (Who is the infographic for?) and use circumstances (in which media will it be available and how can the publication be seen?).²⁴

In this study, the construction and validation process of the educational material was initially designed to meet the demands from health professionals and mothers who use the PHC. But in the period of validation, the COVID-19 pandemic was announced by WHO, which impeded the material to be validated by the units' users. At this stage, it was planned to hold a conversation circle with pregnant women, postpartum and nursing mothers at the healthcare unit.

The IACOL university extension project has the purpose of promoting proper and healthy feeding in the two first years of life, with emphasis on complementary feeding, having as the actions' target audience pregnant women, postpartum and nursing mothers, baby caregivers, undergraduates from different health areas, the community in general and healthcare providers. Based on the experiences accumulated over five years by the project team in waiting rooms, in workshops held at different healthcare units, hospitals (public and philanthropic), in workshops carried out in events of UFRJ-Macaé,²⁵⁻²⁷ there was the need to develop a new material that would deepen the contents on complementary feeding.

It should be noted that the health professionals participating in the actions, mainly those who were part of the FHS in Macaé, especially the nurses, commented positively about the educational material distributed in the actions, but suggested that it could be more comprehensive, for example, with recipes and guidelines for the introduction of foods after the age of six months of age. This is because the FHS do not have nutritionists in their teams,²⁸ and this would be a support to the assistance provided in their daily professional practice.

Therefore, the miniguide was developed from the perspective of deepening important and updated contents on feeding of children under the age of two years, with an emphasis on complementary feeding and targeted to the health professionals in Macaé.

One approach suggested by the specialists was to include in the miniguide the nutrition label,²¹ because part of the population and health professionals are unaware of the nutritional information printed on the labels or packages of processed and ultra-processed foods.

Nutritional facts printed in labels is a strategy used by the food industry to inform consumers about the nutritional composition and other information about the food being marketed, which is regulated by the *Agência Nacional de Vigilância Sanitária (Anvisa)* (National Health Surveillance Agency) in Regulation RDC n. 259 of Sept. 20, 2002.²⁹ Due to the increased prevalence of overweight, obesity and nutritional deficits of micronutrients, nutrition labeling has become a very important topic in the *Política Nacional de Alimentação e Nutrição – PNAN*,³⁰ (National Food and Nutrition Policy) in its second guideline, *Promoção da Alimentação Adequada e Saudável – PAAS*³⁰ (Promotion of Proper and Healthy Eating).

Thus, nutrition labeling was considered relevant to be included in the educational booklet, so as to help the public to understand the nutritional information contained in the food labels, which in most cases are not understood by consumers or not easily readable (e.g., small font size, font color, package color or label where the information is printed).^{31,32}

The sharing of domestic tasks, e.g., a support network to breastfeeding women, preparation of meals, was another subject suggested by specialists to be included in the text content. These suggestions were accepted by the researcher, who added it to the booklet.²¹

O *Guia Alimentar para Crianças Brasileiras Menores de Dois Anos* (Dietary Guidelines for Brazilian Children under the Age of Two Years), a MS publication, describes the support network as the “people and institutions that comprise the individuals' relationship links and contribute to their support and physical, psychological, and emotional protection”.² Both breastfeeding and feeding a child requires the support from the family members and health professionals in order to help the women and their families to overcome the difficulties encountered. Thus, the creation of a support network for these mothers can be a determining factor during breastfeeding, the introduction of new foods and creation of healthy habits involving the children.³³

The cooking act, which is also mentioned in the *Guia Alimentar para Crianças Brasileiras Menores de Dois Anos*, and is aligned with the *Guia Alimentar para a População Brasileira*,³³ introduces a pioneering approach

when it seeks to support and talk about food and nutrition in the two first years of age with people who take care of the child, be it the mother, father, mother/father partners, mother/father's grandparents, with or without a family relationship, who live or not in the same house of the child,² as well as to support the community members, health, education and social workers involved in the care of children in their workplace (primary care units, hospitals, daycare, etc.) and in all environments that promote healthy and proper diets for children.²

The specialists suggested to remove sugar from the banana cake recipe, indicated for children over one year of age, and this recommendation was accepted. According to the Dietary Guidelines for Brazilians, foods and meals sweetened with any kind of sugar, sweetener or honey are not recommended, because it is a risk factor for overweight in childhood and, as a consequence, the development of obesity and associated chronic diseases, in addition to the formation of bacterial plaque and dental caries.²

So, the two recipes in the miniguide, banana cake and avocado mousse with banana and chocolate did not contain sugar, sweetener or honey. Following the recommendation of a specialist, the options suggested to sweeten the recipes were grated apple or ripe banana fruits.²¹

In educational materials, colloquial language, i.e., casual communication written in a clear and simple form is a priority, as well as stimulation of thinking and reflections through questions.²⁴ Thus, the suggestions of the specialists and judges to improve language were accepted, in order to facilitate the dialogue between the health professional and users of the healthcare unit. Constructing a material with an accessible language even for health professionals helps to understand the content, promote autonomy³³ and convey information in the simplest way to users.

Finally, it was possible to see the interest and motivation of the specialists and judges with respect to the miniguide, because all of them praised the material, which reached an average score over 8.5, indicating that the miniguide is important/appropriate with standard deviation below the cutoff point established (<3), indicating consensus by all evaluators.

The main limitation of the study was the impossibility of validating the material by the mothers attended by the healthcare units in Macaé (pregnant women, newborn and nursing mothers) due to the confinement and social distance imposed by the COVID-19 pandemic, and with Macaé city decree n°. 30/2020,³⁴ which determined lockdown of academic activities. However, we already produced a simplified and illustrated educational material aimed to this public, as a consequence of the miniguide, to be validated after the end of the pandemic in Brazil. We believe that this material will also be important to support educational actions developed both by the extension project and health professionals at PHC.

CONCLUSION

The educational material was considered "important/appropriate" in consensus by all evaluators. The content, language, illustrations, layout and culture were the items suggested for changes in the booklet. Nutrition labeling, sharing of household tasks, the use of fresh spices and foods marketed in regional street fairs in the preparation of foods were subjects indicated by the evaluators to be introduced in the miniguide.

Thus, the miniguide is an educational material that contains up-to-date and in-depth information on feeding children under the age of two years, with an emphasis on complementary feeding, which will support health professionals and be a tool to be used in their daily activities, being accessible by electronic equipment through digital media.

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Contributors

Calderoni TL participated in the design, data collection and analysis, and in the writing and critical review of the manuscript. Capelli JCS and Sperandio participated in the design, data analysis, writing and critical review of the manuscript. Ribeiro YG, Carvalho MF, Accioly E participated in the writing and critical review of the manuscript.

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