

Knowledge of primary health care residents about brazilian public policies related to breastfeeding

Conhecimento de residentes da atenção primária à saúde sobre as políticas públicas brasileiras relacionadas à amamentação

Conocimiento de los residentes de atención primaria de salud sobre las políticas públicas brasileñas relacionadas con la lactancia materna

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Abstract

Introduction: The involvement of primary healthcare residents in the promotion, support, and protection of breastfeeding directly depends on their knowledge and understanding of public policies related to this issue. **Objective:** To analyze the level of knowledge of primary healthcare residents regarding Brazilian public policies related to breastfeeding. **Methods:** This cross-sectional study involves active residents in Multiprofessional and Medical Residency Programs in Primary Healthcare from various institutions and locations, including those who provided direct assistance to breastfeeding mothers and their babies. Data were collected online through a structured questionnaire. **Results:** The study included 129 residents, predominantly women (85.3%), and a majority from the Nursing field (n=30; 23.3%),

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Medicine (n=26; 20.2%), Dentistry (n=16; 12.4%), Nutrition (n=12; 9.3%), and Physiotherapy (n=10; 7.8%). Only 15.5% had completed a breastfeeding course, and 94.6% were aware of the recommendation for exclusive breastfeeding until six months of age. About 34.9% reported knowing about the Brazilian Norm for the Marketing of Food for Infants and Young Children, 38.8% (n=50) were familiar with the “Amamenta e Alimenta Brasil” Strategy, and only 36.4% (n=47) were aware of the support strategy for breastfeeding working women. **Conclusion:** Residents demonstrated a low level of knowledge regarding public breastfeeding policies, underscoring gaps in understanding these policies’ main objectives and strategies, highlighting educational gaps that vary according to professional training.

Keywords: Breast Feeding; Cross-Sectional Studies; Primary Health Care; Health Policy; Knowledge; Health Human Resource Training.

Resumo

Introdução: O envolvimento dos residentes da atenção primária à saúde na promoção, apoio e proteção da amamentação depende diretamente de seu conhecimento e entendimento das políticas públicas relacionadas a essa questão. **Objetivo:** Analisar o nível de conhecimento dos residentes da atenção primária à saúde sobre as políticas públicas brasileiras relacionadas à amamentação. **Métodos:** Estudo transversal. Participaram residentes ativos em programas Multiprofissional e Médica da Atenção Primária à Saúde de diversas instituições e localidades, com inclusão daqueles que ofereciam assistência direta a mães lactantes e seus bebês. Os dados foram coletados online por um questionário estruturado. **Resultados:** Participaram 129 residentes, com faixa etária entre 22 e 29 anos (75,2%), predominantemente mulheres (85,3%) e predominância da Enfermagem (n= 30;23,3%), Medicina (n=26;20,2%), Odontologia (n=16;12,4%), Nutrição (n=12;9,3%) e Fisioterapia (n=10;7,8%). Apenas 15,5% realizaram curso de amamentação, e 94,6% estava ciente da exclusividade até seis meses. 34,9% afirmaram ter conhecimento sobre a existência da Norma Brasileira de Comercialização de Alimentos para Lactentes e Crianças de Primeira Infância, 38,8% (n=50) conheciam a Estratégia Amamenta e Alimenta Brasil, e apenas 36,4% (n=47) conheciam a estratégia de apoio à mulher trabalhadora que amamenta. **Conclusão:** Residentes apresentaram baixo conhecimento sobre as políticas públicas de amamentação, destacando lacunas na identificação dos principais objetivos e estratégias das políticas, evidenciando lacunas educacionais que variam conforme a formação profissional.

Palavras-chave: Amamentação; Estudos Transversais; Atenção Primária à Saúde; Política de Saúde; Conhecimento; Capacitação de Recursos Humanos em Saúde.

Resumen

Introducción: El compromiso de los residentes de atención primaria en promover, apoyar y proteger la lactancia materna depende de su conocimiento y comprensión de las políticas públicas relacionadas. **Objetivo:** Analizar el nivel de conocimiento de los residentes de atención primaria sobre las políticas públicas brasileñas relacionadas con la lactancia. **Métodos:** Estudio transversal. Participaron residentes activos en programas Multiprofesional y Médico de Atención Primaria de Salud de diversas instituciones y localidades, incluyendo aquellos que brindaban asistencia directa a madres lactantes y sus bebés. Los datos fueron recopilados en línea mediante un cuestionario estructurado. **Resultados:** Participaron 129 residentes, con una franja etaria entre 22 y 29 años (75,2%), predominantemente mujeres (85,3%) y con predominancia de Enfermería (n= 30; 23,3%), Medicina (n= 26; 20,2%), Odontología (n= 16; 12,4%), Nutrición (n= 12; 9,3%) y Fisioterapia (n= 10; 7,8%). Solo el 15,5% había tomado cursos de lactancia materna y el 94,6% conocía la recomendación de lactancia exclusiva hasta los seis meses. El 34,9% conocía la Norma Brasileña de Comercialización de Alimentos para Lactantes y Niños de Primera Infancia, el 38,8% la Estrategia Amamanta y Alimenta Brasil, y solo el 36,4% la estrategia de apoyo a la mujer trabajadora que amamanta. **Conclusión:** Los residentes mostraron un bajo conocimiento sobre las políticas públicas de lactancia, destacando lagunas en la identificación de los principales objetivos y estrategias de las políticas, evidenciando deficiencias educativas que varían según la formación profesional.

Palabras clave: Lactancia Materna; Estudios Transversales; Atención Primaria de Salud; Política de Salud; Conocimiento; Capacitación de Recursos Humanos en Salud.

Introduction

The Brazilian Unified Health System (SUS) primarily aims to provide healthcare to the population through the implementation of health promotion, protection, and recovery measures, as well as organizing the training of healthcare professionals¹. One segment of this training includes postgraduate programs that incorporate health professional residencies.

In this context, in 1999, a movement emerged aimed at institutionalizing these programs as a formal training policy. Simultaneously, the need arose to revitalize and reformulate family health residencies². These programs stand out for promoting service-based education, focusing on work as an essential tool for professional training. With a minimum duration of two years and a weekly workload of 60 hours under a full-time commitment, these residencies encompass professionals from various health fields³.

The Multiprofessional Family Health Residencies and the Family and Community Medicine Residencies use the Family Health Strategy (ESF) as the primary area of practice in Primary Health Care (APS). The National Basic Health Policy⁴ formalizes the ESF, thereby highlighting APS's relevance as the care coordinator. Guided by the principles and guidelines of SUS, these residencies are shaped by local and regional needs and realities². Amidst the challenges faced by APS in Brazil, the need to train specialized professionals capable of handling the daily demands of APS services stands out, making health residencies essential resources to meet this demand for specialization⁵.

It is crucial to understand the existing public policies to address the challenges in APS related to child health, specifically concerning nutrition. For example, the National Policy for Comprehensive Child Health Care (PNAISC) aims to promote and protect child health and breastfeeding through comprehensive and integrated care⁶. Despite the efforts made, data from the latest report from the Brazilian National Study on Infant Nutrition (ENANI) in 2019⁷ showed that the breastfeeding indicators for children under six months of age were 45.8%, below the recommendations and international targets, which aim for a rate above 50% by 2025⁸.

In light of these challenges, the implementation of the National Policy for the Promotion, Protection, and Support of Breastfeeding aims to increase

the prevalence of exclusive breastfeeding in the first six months and continued breastfeeding for two years or more⁹. This policy includes the Amamenta e Alimenta Brasil Strategy (EAAB) and Legal Protection for Breastfeeding. The EAAB, launched in 2012 by the Brazilian Ministry of Health, aims to strengthen and encourage breastfeeding promotion and healthy complementary feeding for children under two years old, as well as improve the work processes of primary care professionals¹⁰.

The "Legal Protection for Breastfeeding" encompasses legislation that seeks to ensure a woman's right to breastfeed, including the Action for Breastfeeding Working Women (MTA), and to protect breastfeeding against the marketing of competing products, as established in the Brazilian Norm for the Commercialization of Foods for Infants and Young Children, Teats, Pacifiers, and Bottles (NBCAL). The NBCAL, regulated by Law No. 11,265 of January 3, 2006¹¹, and Decree No. 8,552 of November 3, 2015¹², aims to regulate the commercial promotion and proper use guidelines of foods for children up to three years old, as well as protect and encourage exclusive breastfeeding until six months and continued breastfeeding until two years of age or more.

The MTA, initiated in 2010, aims to create a culture of respect and support for breastfeeding in public and private companies to promote the health of the worker and her child, while also providing direct benefits to the company and society. This Action presents the following ideas: extending maternity leave to 180 days, establishing daycare centers in workplaces, and creating breastfeeding support rooms in companies¹³.

Considering that the EAAB, NBCAL, and MTA present objectives and ideas aimed at improving breastfeeding indicators in Brazil, and given that resident professionals are embedded in APS, it becomes necessary to invest in their training regarding breastfeeding, as these components stimulate reflection on the breastfeeding work process in APS. Thus, knowledge of breastfeeding should be prioritized during the residency training process, aiming for the commitment of these professionals to promote, protect, and support breastfeeding.

Therefore, this study is relevant to breastfeeding as it provides guidance on the training needs of health professionals regarding breastfeeding promotion through their knowledge of key public policies. Given the above, this study analyzed the



level of knowledge of primary healthcare residents regarding Brazilian public policies related to breastfeeding.

Method

Study design

Cross-sectional observational study with a descriptive approach.

Ethical considerations

The study was approved by the Human Research Ethics Committee of a Brazilian university hospital (approval no. 6.509.769). It complies with both national and international ethical guidelines.

Participants

Due to the lack of accurate data on the exact number of programs at all levels (municipal, state, and federal), sample calculation could not be performed. Therefore, a convenience sampling method was chosen to ensure the inclusion of as many residents as possible. The participants were active residents in Family Health Residency programs and Family and Community Medicine Residency programs, focusing on Primary Health Care in Brazil, regardless of institution or location within the country. The inclusion criteria involved residents regularly enrolled in these programs, regardless of profession, who provided direct assistance to breastfeeding mothers and their babies. Residents who were absent due to medical or personal reasons during data collection were excluded. All participants provided free and informed consent before participating in the study.

Data collection instrument

Given the lack of validated instruments to assess the knowledge of residents, the researchers developed a collection instrument divided into two distinct parts, A and B, totaling 15 items to gather essential data. Part A focused on the demographic and academic profile of the residents, addressing fundamental questions such as gender, age, region of the country, academic background, and residency year (R1 for first-year residents or R2 for second-year residents). Additionally, residents were asked if they had completed any breastfeeding management courses during their training. Part B delved into knowledge about exclusive breastfeeding and the related Brazilian public policies. The

questions were designed to present correct and incorrect answer options associated with breastfeeding public policies in the Brazilian context, allowing participants to select one or more correct alternatives. Responses were categorized as follows: correctly identified all objectives/axes of the policies; partially identified at least one objective/axis; and did not identify any of the objectives/axes of the NBCAL, EAAB, and MTA policies. Among the questions addressed in the questionnaire were the World Health Organization's (WHO) recommendation on exclusive breastfeeding, NBCAL guidelines with an emphasis on its main objectives, as well as the primary goal of the EAAB and the main strategic axes of the MTA. The purpose of the instrument was to accurately identify the objectives and axes of the Brazilian policies by the residents, as described below:

- NBCAL: Regulate the advertisement and proper use of infant food so that it does not interfere with breastfeeding; Protect mothers and families from inappropriate infant food marketing practices; Control the marketing of infant formulas and other products used as substitutes for human milk; and a set of regulations governing the commercial promotion and labeling of foods and products intended for newborns and children up to three years of age.
- EAAB: Encourage the promotion of breastfeeding and healthy complementary feeding for children under two years of age.
- MTA: Extension of maternity leave to 180 days; Creation of the Breastfeeding Support Room (SAA) in companies; and Establishment of daycare centers in the workplace.

Data collection

Invitations were sent via messaging apps, social media, and emails, ensuring anonymity. The researchers avoided using name lists to protect the identity of the residents. The message contained an invitation with a concise explanation of the study's objectives and content, along with a link to the Informed Consent Form (ICF) and access to the survey instrument after acceptance. The data collection period covered the months of November 2023 to January 2024. At the end of the collection, the researchers downloaded the collected data to a local electronic device, deleting all records from the virtual platform used and the shared "cloud" environment. It is worth noting that the information



was handled with confidentiality, ensuring that no individual participant information was disclosed.

Data analysis

The data were structured in a Microsoft Excel® 2016 spreadsheet. Descriptive data analysis was conducted using absolute frequency (n) and relative frequency (%). The analysis of the association between correctly identifying the policy objectives/ axes, partially identifying at least one objective/ axis, and not identifying the policy objectives/ axes was performed concerning the variables of gender, participation in breastfeeding courses, and residency year, using Fisher’s Exact Test, considering a significance level of $\alpha = 5\%$. All association analyses were conducted using Jamovi 2.3.21 software.

Results

A total of 136 residents participated in the study. Of these, 7 were excluded after applying the exclusion criteria (5 were excluded for medical/personal reasons, and 2 were excluded for incomplete data). Therefore, 129 participants were included, aged between 22 and 29 years (n=97, 75.2%), predominantly female (n=110, 85.3%). The main professions represented were Nursing (n=30, 23.3%) and Medicine (n=26, 20.2%). There was a greater prevalence of second-year residents (n=67, 51.9%). Only 15.5% (n=20) of the residents took a breastfeeding course during their residency (Table 1).

Table 1. Characterization of primary healthcare residents (n=129).

Variable	n	%
Age range		
22-29	97	75.2
30-40	25	19.4
41-60	7	5.4
Gender		
Female	110	85.3
Male	19	14.7
Region of the country		
Northeast	66	51.2
Southeast	32	24.8
South	16	12.4
Central-West	8	6.2
North	7	5.4
Undergraduate Course		
Nursing	30	23.3
Pharmacy	4	3.1
Physiotherapy	10	7.8
Speech Therapy	8	6.2
Medicine	26	20.2
Nutrition	12	9.3
Dentistry	16	12.4
Physical Education Professional	4	3.1
Psychology	6	4.7
Public Health	2	1.6
Social Service	7	5.4
Occupational Therapy	4	3.1
Residency year		
R1	62	48.1
R2	67	51.9
Took a breastfeeding course during her residency		
Yes	20	15.5
No	109	84.5

Caption: R1: first year of residency; R2: second year of residency; n=number of participants.

Most residents (n=122, 94.6%) were aware of the WHO recommendation regarding exclusive breastfeeding for up to six months. Only 34.9% (n=45) stated that they knew about the existence of NBCAL, of which 57.8% (n=26) correctly identified its objectives. Regarding EAAB, 38.8% (n=50) were aware of the strategy, and 76% (n=38) of them correctly identified its main objective. Concern-

ing MTA, 36.4% (n=47) knew about the strategy, but only 12.8% (n=6) of these residents correctly identified its main strategic axes.

There was a significant association ($p=0.09$) between knowledge of the MTA's axes and the residents' completion of breastfeeding courses (Table 3).

Table 2. Knowledge of residents regarding the World Health Organization's breastfeeding recommendation and Brazilian public policies related to breastfeeding (NBCAL, EAAB, and MTA).

Question	Options of answers	n	%
What is the World Health Organization (WHO) recommendation regarding exclusive breastfeeding?	6 months	122	94.6
	4 months	1	0.8
	1 year	3	2.3
	According to mother's wishes	1	0.8
	Not sure	2	1.6
Have you heard about NBCAL (Brazilian Standard for the Marketing of Food for Infants and Young Children)?	Yes	45	34.9
	No	67	51.9
	I'm not sure	17	13.2
What are some of the goals of NBCAL? (n=45)	Identified the objectives	26	57.8
	Partially identified the objectives	15	33.3
	Did not identify the objectives	4	8.9
Are you familiar with the Breastfeed and Feed Brazil Strategy (EAAB)?	Yes	50	38.8
	No	71	55.0
	I'm not sure	8	6.2
What is the main objective of the Breastfeed and Feed Brazil Strategy (EAAB)? (n=50)	Identified the objective	38	76
	Did not identify the objective	12	24
Are you familiar with the Support Strategy for Working Women Who Breastfeed?	Yes	47	36.4
	No	61	47.3
	I'm not sure	21	16.3
What are the main strategic axes of the Working Women who Breastfeed action?	Identified the axes	6	12.8
	Partially identified the axes	32	68.1
	Did not identify the axes	9	19.1

Table 3. Associations between knowledge of the objectives/axes of NBCAL, EAAB, and MTA by gender, completion of breastfeeding courses, and year of residency.

		NBCAL			EAAB			MTA		
		Did not identify the objectives	Partially identified the objectives	Identified the objectives	Did not identify the objectives	Partially identified the objectives	Identified the objectives	Did not identify the axes	Partially identified the axes	Identified the axes
Gender	Female	3	15	24	10	-	34	9	29	5
	Male	1	0	2	2	-	4	1	3	1
	p-value	0.171			0.621			0.790		
Breastfeeding course	Yes	0	6	10	6	-	8	0	8	4
	No	4	9	16	6	-	30	10	24	2
	p-value	0.450			0.052			0.009*		
Residency year	R1	2	7	7	2	-	18	6	16	2
	R2	2	8	19	10	-	20	4	16	4
	p-value	0.409			0.091			0.626		

Fisher's Exact Test - significant if $p \leq 0.05$.

Caption: R1: 1st-year residents; R2: 2nd-year residents; NBCAL: Brazilian Norm for the Commercialization of Foods for Infants and Young Children; EAAB: Amamenta e Alimenta Brasil Strategy; MTA: Breastfeeding Working Women.

Discussion

The low participation in specific breastfeeding courses stands out as a critical point of interest, especially considering the importance of breastfeeding for maternal and child health. Most residents lack the knowledge and training to address the complexities of breastfeeding context, studies highlight the need to train family medicine residents in breastfeeding¹⁵. Specific focused on breastfeeding is crucial for enabling healthcare professionals to guide mothers and families according to WHO guidelines, promoting optimal practices.

Various factors may have influenced the participants' knowledge, aligning with research indicating that factors such as age, having children, and personal experiences with breastfeeding contribute to better knowledge and attitudes¹⁶. The predominance of participants may have also played a role, as a study revealed lower levels of comfort and knowledge about breastfeeding among male professionals in pediatric otorhinolaryngology¹⁷.

It is well known that healthcare professionals from various backgrounds recognize the benefits of breastfeeding for mothers and babies¹⁸. However, studies^{19,20} have shown that knowledge about breastfeeding can be limited among health students, particularly regarding the evaluation and management of breastfeeding²¹, and those with more years of training are the most prepared²². However, the objective of this study was not to compare the participants' occupations.

The high level of awareness regarding the WHO recommendation⁸ for exclusive breastfeeding until six months, as identified in this study, suggests a general understanding among residents of a fundamental practice for maternal and child health. On the other hand, the revelation of the low percentage of residents aware of the NBCAL and its objectives highlights a potential gap in knowledge regarding specific documents that protect breastfeeding practices. This underscores the need for a more targeted approach to education on the specific regulations concerning the commercialization of food and products intended for children under three years old in Brazil.

The course "Recognizing the Brazilian Norm for the Commercialization of Foods for Infants and Young Children, Teats, Pacifiers, and Bottles (NBCAL): Training for Health Network Professionals," promoted by the Brazilian Federal Government, was designed to educate and raise awareness among healthcare professionals about the legal foundations and methods for monitoring NBCAL. The goal is to ensure the legal protection of breastfeeding practices and promote adequate and healthy nutrition during early childhood.

Despite the importance of this course, a significant percentage of residents demonstrated a lack of knowledge about NBCAL, aligning with the results of another study²³ in which 55.1% of healthcare professionals interviewed also admitted to being unaware of the International Code of Marketing of Breast-milk Substitutes. This finding highlights



the need to increase dissemination efforts, both by the Brazilian Government and by the coordinators of health residency programs, and reinforces the importance of encouraging residents to deepen their knowledge in this specific area, ensuring a comprehensive and effective understanding of the guidelines established by NBCAL. In light of this, it is recommended that this course be made a prerequisite for completing residency programs in Primary Health Care (APS).

It is imperative to recognize the importance of including courses on breastfeeding-related policies during professional training, making them mandatory. Such an approach not only strengthens healthcare professionals' knowledge base but also contributes to the effective implementation of policies, ensuring clinical practice is aligned with the guidelines for promoting, protecting, and supporting maternal and child health in the country.

In a Brazilian study²⁴ that assessed breastfeeding and complementary feeding knowledge among professionals working in APS, the researchers found that only 25.6% reported being aware of EAAB, a percentage lower than that found in this study (38.8%). Additionally, another study demonstrated that Basic Health Units in Brazil certified by EAAB showed more positive indicators for breastfeeding and complementary feeding promotion compared to other non-certified units²⁵. These data, along with the results of this study, demonstrate that knowledge of EAAB among professionals working in Primary Health Care (APS) is relatively low.

The discontinuation of actions and the lack of support from local management are the most significant challenges faced in the implementation and development of EAAB initiatives²⁶. Thus, the importance of implementing and certifying EAAB in health units is highlighted as a strategy to improve the quality of care offered to children and their families, as well as to ensure the continuity of actions and support from managers.

Among the Brazilian policies addressed in this study, MTA had the lowest level of knowledge among residents regarding its strategic axes, which may negatively impact the effectiveness of the support provided and the protection of the rights of breastfeeding workers. A scoping review identified that actions aimed at breastfeeding working women contribute directly and indirectly to the achievement of eight of the 17 Sustainable Development Goals (SDGs) of the WHO, and should therefore

be encouraged and reinforced²⁷. Furthermore, a systematic review demonstrated that simple workplace interventions and company policy changes aimed at encouraging breastfeeding (e.g., the creation of breastfeeding support rooms) can positively influence breastfeeding after mothers return to work²⁸.

There was no significant association between gender or residency year and knowledge of the public policies of NBCAL, EAAB, and MTA. However, there was a significant association between knowledge of MTA's axes and the completion of breastfeeding courses, where those who had taken a breastfeeding course were more likely to identify the MTA axes. The association suggests that participation in specific breastfeeding training may have a positive impact on understanding this policy. Moreover, a study²⁹ showed that the 20-hour UNICEF/WHO breastfeeding course was effective in improving healthcare professionals' knowledge, attitudes, and practices regarding breastfeeding.

According to a systematic review with meta-analysis³⁰, educational interventions related to breastfeeding have proven effective in substantially improving the knowledge, attitudes, and skills of nursing, midwifery, and medical students. Thus, it is crucial to invest in targeted educational programs that address not only general breastfeeding practices but also specific strategies, such as MTA, to enhance healthcare professionals' understanding and effective implementation, as well as their knowledge of policies that protect and promote breastfeeding in the country.

There is an urgent need to improve society's overall understanding and awareness of breastfeeding, emphasizing the importance of integrating this topic into health education curricula. The gap between superficial knowledge of these guidelines and strategies and a more in-depth understanding underscores the critical need for a more focused approach to resident training.

Investing in continuous education for healthcare professionals in specialized training is one of the criteria for strengthening the effective implementation of guidelines and strategies aimed at promoting, protecting, and supporting breastfeeding. This targeted approach is essential to ensure that healthcare professionals are adequately trained to address the specific challenges related to promoting breastfeeding.

The interpretation of the results should consider the study's limitations, such as sample size,



the representativeness of the professions, the particularities of different roles, and the absence of a validated instrument with scores to measure the knowledge of health residents. These data highlight the importance of improving the training of healthcare professionals regarding breastfeeding and support strategies, especially given the low participation in specific breastfeeding courses during residency. Furthermore, the lack of knowledge about important documents such as NBCAL, MTA, and EAAB suggests the need for educational and awareness policies to strengthen these professionals' understanding of essential practices for promoting breastfeeding and child nutrition.

Therefore, future studies are recommended to investigate the reasons for the low participation in specific breastfeeding courses among health residents; to explore the effectiveness of dissemination and awareness strategies regarding breastfeeding-related policies; to assess the impact of including breastfeeding courses in health education curricula on the training of future specialists; and to explore the factors associated with knowledge of breastfeeding policies by professional specialty.

Conclusion

The results of this study reveal a diverse overview of the level of knowledge among residents regarding Brazilian public policies related to breastfeeding. While a considerable portion demonstrated awareness of the recommendation for exclusive breastfeeding for up to six months, significant gaps were observed in identifying the main objectives and axes of Brazilian public policies aimed at protecting, supporting, and promoting breastfeeding.

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