Revista ARACÊ
ISSN: 2358-2472

THE ASSOCIATION OF SOCIAL DETERMINANTS OF HEALTH WITH THE TYPE OF BREASTFEEDING

https://doi.org/10.56238/arev7n1-187

Submitted on: 12/22/2024 **Publication date:** 01/22/2025

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ABSTRACT

Introduction: The practice of breastfeeding is influenced by several social determinants of health (SDH), such as maternal age, education, family income, and insertion in the labor market. This study, carried out in coastal municipalities in the state of Alagoas, Brazil, seeks to understand how these variables impact the type of breastfeeding, considering their associations with early weaning and the continuity of exclusive breastfeeding. The analysis shows that older mothers with low family income are more likely to start mixed or partial breastfeeding, while higher income levels favor the practice of exclusive breastfeeding. These results reinforce the importance of public policies that prioritize breastfeeding support, especially among more vulnerable populations. Objective: To describe the influence of maternal age, schooling, maternal work and profession, and family income on the type of breastfeeding. Methods: This is a cross-sectional descriptive study with a quantitative approach, based on the population. It was conducted in the Basic Health Units (Family Health Strategy) in the coastal municipalities of the state of Alagoas, Brazil. The interviews with the participants took place from May to November 2017. Scenario and participants: The Basic Health Units provided a good representation of

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participants who used the Unified Health System for their health needs. A random sample of 150 breastfeeding women was recruited. The Ethics Committee of the Federal University of Alagoas approved the study. All participants provided formal consent. Results: The mean age of the participants was 24.8 years; 60 (40%) identified themselves as evangelical, 68 (45.3%) did not complete elementary school, 85 (56.7%) were housewives, and most had a family income of one to two minimum wages per month. Maternal age and family income were statistically related to the type of breastfeeding ($p < 0.05$). Notably, the largest number of participants who used mixed or partial breastfeeding (30%) were 30 years or older. Most mothers who underwent mixed or partial breastfeeding (87.1%) had a family income of less than two minimum wages per month. On the other hand, most mothers (14.3%) with a family income of three or more minimum wages per month practiced exclusive breastfeeding. Main conclusions: The data indicate that higher maternal age and lower monthly family income are social determinants of health that increase the chances of interrupting exclusive breastfeeding, while higher monthly family income increases the chances of maintaining exclusive breastfeeding. Implications for practice: These findings indicate the need for greater breastfeeding support, especially for low-income mothers, who are more likely to interrupt exclusive breastfeeding, thus increasing the chances of infant morbidity.

Keywords: Breastfeeding. Exclusive breastfeeding. Early weaning. Household income. Social Determinants of Health.

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INTRODUCTION

SOCIAL DETERMINANTS OF HEALTH

In high- and low-income countries, the quality of living and working conditions contributes to the improvement or decline of people's health (WHO, 2006). From a global perspective, living conditions, as well as medical treatments and individual lifestyle choices, shape the main factors that affect health. Such conditions are known as social determinants of health (SDH) (Mikkonen and Raphael, 2010).

The World Health Organization (WHO, 2018) defines SDH as: "the conditions in which people are born, grow up, live, work and age. These circumstances are shaped by the distribution of money, power, and resources at global, national, and local levels. The social determinants of health are primarily responsible for health inequities – the unfair and avoidable differences in health status observed within and between countries."

There are several models of DSS globally. One such model, developed in 2002 at York University (Toronto, Canada), exemplifies 14 types of SDH, including education/schooling, income, and employment status (Raphael, 2009).

SDH directly affects people's lives. In this sense, the WHO established the Commission on Social Determinants of Health (CSDH) in March 2005, and the President of Brazil established the National Commission on Social Determinants of Health (CNDSS) in March 2006. The CNDSS aims to raise global awareness, putting into practice the objectives of presenting information on SDH in Brazil and cooperating in the development of policies that promote equity in health, involving different sectors of government and civil society (CNDSS, 2008).

The availability of information on SDH is the first step to mobilize efforts to improve people's health conditions and reduce inequalities (CNDSS, 2008). The creation of the CNDSS was a response to the traditional health movement in Brazil, with the objective of deepening knowledge about the relationships between socioeconomic determinants and health conditions, promoting concrete and assertive actions based on this knowledge (Filho and Vetorre, 2011).

SOCIAL DETERMINANTS OF HEALTH AND BREASTFEEDING

Breastfeeding continues to be the best way to promote bonding, affection, protection and adequate nutrition for the child, constituting the most effective, sensitive and economical intervention in reducing infant morbidity and mortality. Among the main

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determinants of breastfeeding success, studies point to maternal age, parents' education (especially the mother's), family income, maternal work outside the home and living with the father (Ruthes, 2011).

This study focuses on the influence of some SDH, including age, income, education and employment, on the practice and success of breastfeeding continuity. The objective of the research was to determine the relationships between the type of breastfeeding practiced by mothers and variables such as maternal age, education, maternal work and profession, and family income.

METHODS

DESIGN

This is a descriptive, population-based, cross-sectional study. The quantitative method translates opinions and information into numbers to be classified and analyzed (Creswel, 2010). Cross-sectional studies describe individuals in a population in relation to their personal characteristics and their history of exposure to causal factors (Rodrigues, 2007). A group of nurses (n=4) was selected and trained by the main researcher, by videoconference via Skype, to collect data through individual interviews with the participants. These interviews took place from May to November 2017.

SCENARIO

The study was conducted in the Basic Health Units (Family Health Strategy) of the coastal municipalities of the state of Alagoas, Brazil. These units are part of the Unified Health System. A total of 86 Family Health Strategy teams, accredited by the Ministry of Health, have been registered and implemented (Brasil, 2015).

SAMPLE

A sample of 150 women was recruited using random, non-probabilistic sampling techniques. This sample size was based on a mean proportion of 50%, absolute precision of 8%, and significance level of 5%. The inclusion criteria were women living in the coastal municipalities of Alagoas, Brazil, who were breastfeeding (regardless of the type of breastfeeding practiced), in a relationship with a partner, between three and six months after delivery, who had resumed sexual activity after delivery and consented to participate in the study. The exclusion criteria were pregnant women, women with mental disabilities, with

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pathologies that contraindicated sexual activity, from the seventh month after childbirth or more, or who were taking medications that directly interfered with sexual function.

DATA COLLECTION AND ANALYSIS

The data were collected with the support of the Community Health Agents of the Family Health Strategy teams in the coastal municipalities of the state of Alagoas. The initial contact with the potential participants was made in each Basic Health Unit, where the research was explained, and women who met the inclusion criteria in each micro-health area were invited to participate. Routine home visits were scheduled with the support of Community Health Agents, during which interviews were conducted and data collected. The study was approved by the Research Ethics Committee of the Federal University of Alagoas, under CAAE protocol: 62265816.2.0000.5013, following the recommendations of resolution 466/2012 of the National Health Council, Brazil. Informed consent was obtained prior to the interviews (guardian consent was obtained for participants under 18 years of age).

The interview guide was developed based on the authors' professional experience and supported by national and international literature on the subject, found through a search in the Lilacs, Pubmed, Medline, and Bdenf databases, using the following descriptors: breastfeeding, maternal age, educational level, work and profession, and family income. The guide included 14 structured questions to collect data from mothers on sociodemographic variables (age, religion, education, work, profession and family income) and type of breastfeeding (exclusive; predominant, with consumption of water or juices; complementary, with solid or semi-solid foods; or mixed/partial, with breast milk and other types of milk).

The analysis focused on comparing the type of breastfeeding and SDH-related variables, including maternal age, educational level, work, occupation, and family income (measured as a multiple of the monthly minimum wage). Chi-square tests were used to compare groups related to the type of breastfeeding. A significance level of 5% was considered for all tests (Magalhães and Lima, 2000).

FINDINGS

Table 1. Sociodemographic characteristics of the participants (n = 150).

Variable	n=150
Age in years (mean and standard deviation)	24.8 ± 6.4

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Identification as evangelical (n, %)	60 (40%)
Incomplete elementary school (n, %)	68 (45.3%)
Housewife (n, %)	85 (56.7%)
Family income between 1 and 2 minimum wages (n, %)	81 (54%)

The sociodemographic data show that the mean age of the 150 women interviewed was 24.8 years, 60 (40%) identified themselves as evangelical, 68 (45.3%) had not completed elementary school, 85 (56.7%) were housewives, and 81 (54%) had a monthly family income between one and two minimum wages (Table 1).

Table 2. Social determinants of health according to the type of breastfeeding practiced by the participating women (n=150).

		Type of breastfeeding								P-value
		Exclusive breastfeeding		Predominant breastfeeding		Complementary breastfeeding		Mixed or partial breastfeeding		
		n	%	n	%	n	%	n	%	
Maternal Age	less than 20 years old	9	21.4%	11	36.7%	2	11.1%	16	26.7%	0.042
	20 to under 25 years old	11	26.2%	10	33.3%	6	33.3%	16	26.7%	
	25 to under 30 years old	14	33.3%	6	20.0%	9	50.0%	10	16.7%	
	30 years or older	8	19.0%	3	10.0%	1	5.6%	18	30.0%	
Schooling	Incomplete elementary	16	38.1%	16	53.3%	6	33.3%	30	50.0%	0.531
	Complete elementary	3	7.1%	0	0.0%	3	16.7%	2	3.3%	
	Incomplete high school	5	11.9%	5	16.7%	2	11.1%	11	18.3%	
	Complete high school	13	31.0%	8	26.7%	5	27.8%	15	25.0%	
	University degree Incomplete	3	7.1%	1	3.3%	1	5.6%	1	1.7%	
	University Full Degree Graduate	2	4.8%	0	0.0%	1	5.6%	1	1.7%	
Work	Away from home	1	2.4%	0	0.0%	0	0.0%	3	5.0%	0.572
	At home	34	81.0%	26	86.7%	13	72.2%	49	81.7%	
	Both away from home and in house	7	16.7%	4	13.3%	5	27.8%	8	13.3%	
Profession	Student	4	9.5%	1	3.3%	0	0.0%	5	8.3%	0.400
	Housewife	21	50.0%	21	70.0%	11	61.1%	32	53.3%	
	Home Housekeeper appliances	1	2.4%	2	6.7%	2	11.1%	7	11.7%	
	Business	13	31.0%	5	16.7%	5	27.8%	16	26.7%	
	Education professional	1	2.4%	1	3.3%	0	0.0%	0	0.0%	
	Health Professional	2	4.8%	0	0.0%	0	0.0%	0	0.0%	
Family income (as a multiple of a Minimum Salary monthly)	< 1	7	16.7%	7	23.3%	3	16.7%	21	35.0%	0.037
	1-2	27	64.3%	16	53.3%	10	55.6%	28	46.7%	
	2-3	2	4.8%	7	23.3%	4	22.2%	9	15.0%	
	3 or +	6	14.3%	0	0.0%	1	5.6%	2	3.3%	

Source: Study data

MATERNAL AGE AND FAMILY INCOME

Maternal age and family income were significantly related to exclusive breastfeeding ($p < 0.05$). Notably, the largest number of participants who practiced mixed or partial breastfeeding (18.30%) were 30 years or older. In addition, most mothers who were breastfed mixed or partially breastfed had a family income of less than twice the minimum monthly wage (325.0+46.7%=871.7%), while most mothers (6 out of 9, 14.366% or 14.3%) with a family income of 3 times or more of the minimum wage were exclusively breastfed.

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DISCUSSION

This study is the first to report the social determinants of health that affect breastfeeding in coastal municipalities in the state of Alagoas, Brazil. The objective of the study was to consider variables of the social determinants of health (SDH), such as maternal age, education, maternal work, profession and family income, in relation to the type of breastfeeding.

According to Escobar et al. (2002), Faleiros et al. (2006), Chaves et al. (2007) and Barros et al. (2009), SDH affect the practice of breastfeeding in Brazil, and maternal age is a significant factor for the success or failure of breastfeeding. The results indicate that older women tend to breastfeed for longer due to greater experience and knowledge about breastfeeding. Younger mothers, especially teenagers, breastfeed for shorter periods, which is related to a lack of self-confidence. However, a study by Alves et al. (2008) does not support these results, as it did not find a significant connection between maternal age and early weaning. A study conducted in Lebanon reported that significantly more mothers aged 20 to 24 years (41.2%) exclusively breastfed their babies compared to younger mothers (41.2% vs. 30.4%, respectively), but also that other factors were significantly associated with exclusive breastfeeding, including employment and monthly household income (Hamade et al., 2013).

The results of the present study indicate a statistically significant difference between the groups of types of breastfeeding in relation to age and income ($p < 0.05$); Specifically, the data show a higher percentage of mothers aged 30 years and over (30.0%) in the group that practices partial or mixed breastfeeding. These results do not agree with the above studies, as they indicate that the older participants in our study had already started mixed breastfeeding. A survey of 1193 mothers at the Japanese Red Cross Medical Center in the Tokyo Metropolitan Area investigated the combined effects of maternal age and parity on the practice of exclusive breastfeeding and also reported different results. Specifically, success rates in the initiation of exclusive breastfeeding, both at hospital discharge and in the month after delivery, were lower in primiparous mothers aged 35 years or older. These findings demonstrated that older primiparous women may need more interventions from health professionals to improve success in the practice of exclusive breastfeeding (Kitano et al., 2016).

Regarding income, the data presented indicate a higher percentage of mothers with a family income of less than 1 minimum wage in the partial or mixed breastfeeding group and

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a higher percentage of mothers with a family income of more than 3 minimum wages in the exclusive breastfeeding group. This suggests that higher incomes are associated with a higher likelihood of women continuing to breastfeed exclusively.

CONCLUSION

Most of the participants in this study were young, evangelical housewives, with low levels of education and family income. The data indicated that a higher maternal age was associated with a greater chance of discontinuation of exclusive breastfeeding. However, a higher monthly family income increased the chances of maintaining exclusive breastfeeding. These findings indicate that greater efforts should be made to support breastfeeding, especially among low-income women, as they are more likely to discontinue exclusive breastfeeding, which increases the chances of infant morbidity.

In view of these results, it is essential to implement public policies that recognize the socioeconomic barriers faced by these women. Investing in health education programs can be an effective strategy to increase knowledge about the benefits of breastfeeding, enabling young mothers with low levels of education to overcome common difficulties. In addition, targeted interventions, such as the expansion of paid maternity leave and the creation of appropriate spaces for breastfeeding in the workplace, are key to enabling women to continue breastfeeding exclusively, even after returning to their work activities.

The strengthening of support networks, both family and community, is also essential. Breastfeeding support groups, led by trained professionals, can offer emotional and practical support to mothers, promoting the confidence necessary to maintain exclusive breastfeeding. Specific strategies for women in situations of economic vulnerability, such as the distribution of food supplements to low-income families, can help reduce dependence on infant formula, which is often associated with early weaning.

In addition, it is crucial to invest in the continuous training and capacity building of health professionals, ensuring that all levels of the health system are prepared to offer evidence-based guidance, as well as to identify and intervene early in cases of breastfeeding difficulty. The involvement of different sectors of society, including religious organizations, can be explored as a way to reach specific populations, such as evangelical women, who represented a significant percentage of the participants in this study.

Therefore, the combination of effective public policies, individualized support, and community interventions can contribute significantly to the promotion of breastfeeding,

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reducing health inequities and improving infant morbidity and mortality indicators. These efforts must be continuous and adapted to the specific needs of each regional context, such as that observed in the coastal municipalities of Alagoas, to achieve lasting impacts on maternal and child health.

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