



Impact of an educational intervention on breastfeeding in adolescent mothers: A quasiexperimental study.

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Abstract

Introduction: The abandonment of breastfeeding by adolescent mothers is a complex problem with multiple interrelated causes that can be grouped into biological, psychosocial, and economic factors. This study aimed to identify the effect of an educational intervention on breastfeeding knowledge among adolescent mothers who attended a public referral hospital in Guayaquil, Ecuador.

Methods: The quasiexperimental study was conducted at the Hospital Dr. Francisco de Icaza Bustamante in Guayaquil, Ecuador, from 2022 to 2023. Adolescent mothers were included. The variables included demographic information, information on breastfeeding counseling in the prenatal period, and information on breastfeeding in the first hour of life. Pre- and postintervention tests were performed on the following parameters: benefits of breastfeeding, extraction and storage of breast milk, complications of breastfeeding, and the ideal time to offer to breastfeed. The sample was probabilistic. Noninferential and inferential statistics were used.

Results: A total of 164 adolescents were admitted. The maternal age was 15.7 ± 1.74 years; most adolescents were mixed with 62 patients (38%), and 68 (41%) were single. Incomplete primary and secondary schooling occurred in 86 patients (52%). Most of the participants were of urban origin (45%). The prevalence of breastfeeding counseling in the prenatal period was 52 (31%) (95% CI 24.6% -38.8%). There were 96 cases of breastfeeding in the first hour of life (59%) (95% CI 51% to 66.1%).

Conclusions: There is a general lack of knowledge about breastfeeding among adolescent mothers. Sixty-nine percent of the mothers did not receive any prenatal counseling on breastfeeding.

Keywords:

DeCS: Exclusive Breastfeeding, Teen Mothers, Abandonment of Breastfeeding

Declarations

Ethics committee approval and consent to participate

The bioethics committee of the Faculty of Medical Sciences of the University of Guayaquil approved this study.

Publication consent

It is not required when images, radiographs, and specific studies of patients are not published.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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Introduction

The abandonment of breastfeeding by adolescent mothers is a complex problem with multiple interrelated causes that can be grouped into biological, psychosocial, and economic factors [1]. The rate of breastfeeding initiation within the first hour of life was only 42.2% among adolescent mothers in a study of 2554 teenage mothers in Bangladesh [2], which shows that breastfeeding initiation is a prevalent problem. The rates of exclusive abandonment of breastfeeding reported in adolescents are 33.3%, 52.2%, and 63.8% at 2, 4, and 6 months, respectively [3].

Among the biological factors that could explain the abandonment of breastfeeding in adolescents are hormonal and physiological changes because adolescents lack breast maturity, which can limit the storage capacity of milk and increase the risk of mastitis [4]. Additionally, the babies of adolescent mothers are more likely to be born prematurely or have low birth weight, which can make breastfeeding difficult and require supplementary feeding [5].

Psychosocial factors such as lack of social or family support, low self-esteem, and depression can negatively affect mothers' motivation to breastfeed; in addition to social pressure from other adolescents and their peers, mothers with a lack of knowledge and information feel pressured to abandon breastfeeding and opt for bottle feeding [6].

Adolescent mothers often live in conditions of poverty or lack, which can make it difficult to access a healthy diet and the necessary health care to support breastfeeding, in addition to the lack of access to breastfeeding support services such as support groups or consultations with lactation specialists [7].

On the other hand, the need to return to school or work can cause medium- and long-term difficulties in reconciling breastfeeding with one's responsibilities [7].

This study aimed to identify the effect of an educational intervention on breastfeeding knowledge among adolescent mothers who attended a public referral hospital in Guayaquil, Ecuador.

Materials and methods

Study design

The present study is quasiexperimental. The source is prospective.

Stage

This study was conducted at the Gynecology and Obstetrics Service of Dr. Francisco de Icaza Bustamante Hospital of the Ministry of Public Health, Guayaquil, Ecuador. The study period was from March 1, 2022, to March 31, 2023.

Participants

Adolescent mothers from 12 to 18 years of age who were admitted to the hospital area of the institution and who agreed and signed the informed consent for participation were included. Patients with incomplete data were excluded from the analysis. The crossover group consisted of the study subjects before and after the intervention.

Variables

The variables were the child's age, maternal age, self-identification in race, marital status, mother's education, origin, information on breastfeeding counseling in the prenatal period, and breastfeeding in the first hour of the baby's life. Pre- and postintervention tests were carried out, which consisted of asking for and providing information about the following:

1. Benefits of breastfeeding.
2. Extraction and conservation of breast milk.
3. Complications of breastfeeding.
4. The ideal time to offer to breastfeed.

Data sources/measurements

The source was indirect; an electronic form was created from the institutional medical history of the patients who entered the hospitalization period. A review of the registry of the gynecological-obstetric unit was carried out. The information was confidential; no personal data were included to identify the study subjects. The intervention was carried out through a knowledge test and, after a 30-minute magisterial educational intervention, a 40-minute application practice. The evaluations were carried out the day after the educational intervention while the patient was hospitalized. The intervention was measured with a new knowledge test after the intervention.

Biases

To avoid interviewer, information, and memory biases, the principal investigator always maintained the data with a guide and records approved in the research protocol. Observation and selection bias were avoided by applying the participant selection criteria. Two researchers independently analyzed each record in duplicate, and the variables were recorded in the database once their agreement was verified.

Study size

The sample was probabilistic. Guayas, Ecuador, has 4,391,923 inhabitants, 24.6% of whom are adolescents aged 10 to 19 years, corresponding to 1,080,413 cases. The population of girls is estimated to be approximately 49%, equivalent to 529,402 adolescent women. The teenage pregnancy

rate in Ecuador is 49.4 per thousand adolescents, which represents 26,152 possible cases. The EPI info™ program (version 7.2.5, CDC, Atlanta, USA, September 2022.) With an expected frequency of 50%, a confidence limit of 5%, and a confidence interval of 80%, the sample size was 163 patients.

Quantitative variables

Descriptive statistics were used. The results are expressed as frequencies and percentages.

Statistical analysis

Noninferential statistics were used. For descriptive analysis, frequencies and percentages are presented. For the incidents, the 95% confidence intervals are presented for proportions. Statistical comparisons between proportions were made with chi-square tests. The statistical package used was IBM Corp., Released in 2017. IBM SPSS Statistics for Windows, Version 25.0. Armonk, NY: IBM Corp.

Results

Participants

This study included 164 postpartum hospitalized adolescent women who agreed to participate.

Main characteristics of the study group

The mean maternal age was 15.7 ± 1.74 years. The most prevalent age was 17 years (Table 1). The children's ages ranged from under six months to 25 months (Table 1). Regarding ethnic self-identification, most respondents were Mestizo, with 62 (38%). The most prevalent marital status was single in 68 patients (41%). Incomplete primary and secondary schooling occurred in 86 patients (52%). The urban origin was, in most cases, 45% (Table 1).

Prevalence of breastfeeding counseling

The prevalence of breastfeeding counseling in the prenatal period was 52 cases (31%). The 95% confidence interval for the proportion was 24.6%-38.8%. There were 96 breastfeeding cases during the first hour of life (59%). The 95% confidence intervals for the proportions ranged from 51% to 66.1%.

Knowledge test and educational intervention

The history of breastfeeding counseling in the prenatal period was 31%.

Table 1. Descriptive characteristics of the study group.

Variable	N=164	%
Age	12 years old	5 3.0
	13 years old	18 11.0
	14 years old	23 14.0
	15 years old	24 15.0
	16 years old	25 15.0
	17 years old	42 26.0
	18 years old	27 16.0
Child's age	<6 months	43 26.0
	6-11 months	44 27.0
	12-23 months	41 25.0
	24-25 months	36 22.0
Race	Hispanic	62 38.0
	Indigenous	37 23.0
	Afro-Ecuadorian	33 20.0
	Montubia	32 19.0
Marital status	Single	68 41.0
	De facto union	54 33.0
	Married	42 26.0
Schooling	Primary	28 17.0
	Incomplete secondary	58 35.0
	Complete secondary	46 28.0
	Superior	32 20.0
Provenance	Urban	75 45.0
	Urban-marginal	43 26.0
	Rural	46 29.0

Table 2. Educational intervention test in breastfeeding.

Variable	Pretest	Post-test	P
Knowledge of benefits of breastfeeding	0	164	<0.001
Knowledge of extraction and conservation of breast milk	0	164	<0.001
Knowledge of breastfeeding complications	0	164	<0.001
Knowledge of the ideal time to offer breastfeeding	0	164	<0.001

However, the knowledge at the time of postpartum hospitalization from 0 months to 25 months was null, and none of the mothers had concepts related to the benefits of breastfeeding,

the extraction and conservation of breast milk, breastfeeding complications, or the ideal time to offer babies breastfeeding. After 45 minutes of educational intervention, all mothers demonstrated acquiring the required knowledge ([Table 2](#)).

Discussion

In this study, the level of knowledge of breastfeeding, as well as breastfeeding practices, among adolescent mothers was evaluated. The early abandonment of breastfeeding, therefore, demonstrated the ignorance of adolescent mothers about breastfeeding. Sixty-eight percent of the mothers did not receive any prenatal counseling; however, 59% of mothers offered breastfeeding in the first hour of their newborn's life, but then they abandoned it at approximately one year of age. This finding is similar to other investigations, such as those in Spain. In 2020, the rate of abandonment of exclusive breastfeeding among the population decreased three months after its initiation [8]. Concerning the abandonment of exclusive breastfeeding in the first six months of life, we found that the highest abandonment rate occurred during the first three months of life.

Regarding the demographic variables, most participants were 17 (26%). This finding coincides with another study in Santander, Colombia, in 2022, where it was possible to determine that the age group that predominates among adolescent mothers is middle adolescents, with 53.85% of mothers aged between 14 and 16 years [9].

Only 59% of the participants practiced breastfeeding in the golden hour. A previously conducted study showed that mothers who had their first skin-to-skin contact with their children in the first hour of life exhibited a greater prevalence of EBF than mothers who did so later [10]. The main benefit of breastfeeding in golden hours is to improve the frequency and duration of exclusive breastfeeding.

Therefore, adolescent mothers and mothers of all ages must know the benefits of breastfeeding to establish it from birth until approximately three years of age.

This study has limitations in evaluating educational interventions in the medium and long term and in measuring the prevalence of abandonment of exclusive breastfeeding at 6 and 9 months. Other longitudinal studies should resolve these weaknesses.

Conclusions

More knowledge about breastfeeding among adolescent mothers is needed. Sixty-eight percent of the mothers did not receive any prenatal counseling on breastfeeding. Fifty-nine

percent of mothers offered breastfeeding in the first hour of their baby's life. Most adolescent mothers are 17 years old.

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Abbreviations

Not declared.

Supplementary information

No supplementary materials are declared.

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Authors' contributions

María Daniela Gaibor Zumba: Conceptualization, data curation, formal analysis, acquisition of funds, research, writing - original draft.

María Isabel Saavedra Álava: Conceptualization, Data curation, Formal analysis. Jorge Luis Gaibor Carpio: Acquisition of funds, Research, Methodology, Resources, Supervision, Validation, Visualization, Writing - original draft, Writing - review and edition.

All the authors have read and approved the final version of the manuscript.

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Availability of data and materials

The datasets used and analyzed during the present study are available from the corresponding author upon reasonable request.