

# Targeted Health Messaging And Breastfeeding Attitudes Among Teenage Mothers In Public Hospitals Of Tharaka Nithi County, Kenya

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## Abstract:

Breastfeeding is essential for promoting infant health, particularly in the first six months of life. It serves as a critical public health strategy to improve the health of both children and mothers by reducing child morbidity and mortality while lowering societal healthcare costs. Despite its importance, teenage mothers often face distinct challenges in adhering to recommended breastfeeding practices. Targeted health messages offer a promising solution, providing personalized communication that enhances breastfeeding practices and ultimately improves infant health outcomes. A randomized control trial was employed across baseline, intervention, and post-intervention phases. The study targeted teenage mothers with infants less than six months who were attending public hospitals in Tharaka Nithi County. Two hundred and four teenage mothers were identified through postnatal care registers during the study period. Chan formula was used to sample 60 participants. They were randomly allocated into 2 groups of 30 teenage mothers each. There is a strong association between targeted health messages and breastfeeding attitudes and practices ( $p < 0.05$ ). Breastfeeding practices shifted significantly due to the intervention ( $F = 108.87$ ,  $p < 0.05$ ) implying that targeted health messaging successfully shifted the attitude levels of teenage mothers on multiple dimensions related to breastfeeding practices. There is need for the county government to adopt targeted health messaging to improve breastfeeding attitudes and practices of teenage mothers in their hospitals. This will help them tailor health communication to identify best practices for promoting breastfeeding within this vulnerable group.

**Keywords:** Breastfeeding practices, targeted messages, teenage mothers, attitude

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## I. Introduction

Breastfeeding has been identified as an important child survival strategy and universally recognized as the best source of newborn and infant nutrition [1]. It is beneficial to both the mother and infant [2]. Breast milk contains the correct mixture of nutrients needed by a baby for the first months of their life for both body and brain development. Increasing optimal breastfeeding practices has the potential of preventing about 1.5 million infant deaths every year [1]. This is because it contains antibodies that shield infants from common childhood illnesses such as diarrhea, pneumonia and neonatal sepsis. Breast milk thus remains a superior food for babies, since it contains optimal amounts of fats, sugar, water and protein needed for their growth and development [3]. Contrary, suboptimal breastfeeding is associated with lower intelligence and economic losses.

The World Health Organization recommends exclusive breastfeeding for the first six months of a child's life and combining breastfeeding with appropriate complementary feeding for two years or more. Longer periods of exclusive breastfeeding are predictive of neuro healthy development of the child, protection from neuro diseases and good cognitive abilities [4]. Breastfeeding offers many health benefits and financial savings to families and health care systems [5].

Despite the WHO's recommendations on breastfeeding and its benefits, less than half of infants under 6 months old are exclusively breastfed [6]. Studies have shown that health communication strategies such as targeted messaging promote exclusive breastfeeding and reduce adverse infant-feeding practices [7]; [8]. Health communication strategies targeting a specific population and considering their unique characteristics, behaviour and need are termed as targeted health messages [9]. Targeted messages to teenage mothers are delivered through different channels including social media, peer groups, community organizations, and health care setting [10]. Targeted health messages have the potential to reduce barriers to breastfeeding by communicating information, dispelling misconceptions, and increasing motivation to breastfeed.

Understanding the influence of targeted health messaging on teenage breastfeeding is crucial for developing effective programs that address these specific challenges [11]. By examining how tailored health communication impacts knowledge, attitudes, and behaviors related to breastfeeding among teenage mothers, researchers can identify best practices for promoting breastfeeding within this vulnerable group. Such insights are vital for public health efforts aimed at reducing health disparities and improving maternal and child health outcomes in adolescent populations [7]. This study aims at bridging the gap by examining the attitudes towards breastfeeding practices among teenage mothers in public hospitals in Tharaka Nithi County, Kenya.

## II. Methodology

The study employed a randomized control trial design with pre- and post-intervention assessments to evaluate the effect of targeted health messages on breastfeeding practices among teenage mothers. The research was conducted in Tharaka Nithi County, Kenya, specifically Marimanti level 4 and Magutuni level 4 hospitals. The study population consisted of teenage mothers with children below six months in these hospitals. Purposive sampling was used to sample the two hospitals and simple random sampling to sample 60 teenage mothers. The target population consisted of 204 teenage mothers attending public hospitals during the study period. The post-natal care (PNC) registers at the study sites were used as the sampling frame. The study included teenage mothers aged between 13 and 19 years who were attending postnatal clinics or maternal and child health (MCH) services at public hospitals in Tharaka Nithi County. Data collection was carried out using semi-structured questionnaires administered both before and after the intervention, to assess attitudes towards breastfeeding practices and their influence on breastfeeding practices. The intervention component involved sending target messages on breastfeeding practices to the selected teen mothers. Data was analyzed using SPSS, applying descriptive statistics for demographic data and inferential statistics such as chi-square tests, analysis of variance and regression analysis to examine changes and associations. A significance level of  $p < 0.05$  was used to determine statistical significance.

## III. Results And Findings

### Demographic characteristics

Majority of the respondents (85.7%) were between 15–19 years, while a smaller group (14.3%) fell within the 13–15 years bracket (Table 1). This age distribution reflects the common reproductive age range among adolescents, particularly those likely to seek maternal care in public hospitals. The educational background of the respondents showed diversity with 44.6% having attained high school education, 35.7% completed primary school, 10.7% without formal education, and 8.9% with some college education. This educational spectrum has a direct implication on message delivery. The high proportion of respondents with at least primary or secondary education suggests that most teenage mothers could comprehend written health materials, but simplification and use of visual aids may still be necessary to accommodate those with limited literacy.

Regarding the age of the child, 37.5% of babies were aged 5–6 months, 35.7% were 3–4 months, and 26.8% were below 2 months. This indicates that a substantial number of mothers were already well into the breastfeeding journey, with many approaching or at the tail-end of the exclusive breastfeeding period recommended by the World Health Organization (WHO).

**Table 1: Demographic characteristics**

Variable		Frequency (n)	Percentage (%)
Age (Years)	13-15 Years	8	14.3
	15-18 years	48	85.7
Level of Education	No education	6	10.7
	Primary	20	35.7
	High school	25	44.6
	College/University	5	8.9
Age of Baby (Months)	Below 2 Months	15	26.8
	3-4 Months	20	35.7
	5-6 Months	21	37.5

### Association between breastfeeding practices and attitudes among teen mothers

Association between target messages to the teenage mothers was investigated using Chi<sup>2</sup> analysis at 5% level of significance.

**Table 2: Association between breastfeeding practices and attitudes**

Item	Chi <sup>2</sup> Statistic	p-value	Degrees of Freedom
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Initiate breastfeeding within first hour	28.0064	0.00001	4
Exclusive breastfeeding for 6 months	30.94606	0.00001	4
Feed when baby shows hunger	39.88323	0.00001	4
Seek guidance from healthcare professionals	29.63833	0.0001	4
Let baby breastfeed as long as they want	16.76701	0.002145	4
Find comfortable place to breastfeed	17.73031	0.001393	4
Maintain healthy diet	35.58566	0.0001	4

There was a strong association between target messaging within the first hour of initiation of breastfeeding and breastfeeding practices among the teenage mothers ( $\text{Chi}^2 = 28.01$ ,  $p < 0.001$ ) implying a significant shift in attitudes. The intervention successfully encouraged more teenage mothers to value early initiation of breastfeeding. Early initiation of breastfeeding keeps babies healthy and prevents common illnesses such as lung and ear infections and diarrhea [12]. Similarly, the  $\text{Chi}^2$  results between exclusive breastfeeding for 6 months and breastfeeding practices is significantly related ( $\text{Chi}^2 = 30.95$ ,  $p < 0.001$ ) suggesting a strong change in attitude towards exclusive breastfeeding. This reflects improved awareness of its importance due to the target messaging. Frequent breastfeeding and long durations help in saving infant lives especially in low-income nations [13].

Further, on breastfeeding when baby shows hunger a  $\text{Chi}^2 = 39.88$ ,  $p < 0.001$  was obtained revealing a significant association with breastfeeding practices. The findings indicate a strong move towards responsive feeding attitudes, an essential behavioral change for infant nutrition. Also, seeking guidance from healthcare professionals was significantly associated with breastfeeding practices ( $\text{Chi}^2 = 29.64$ ,  $p < 0.001$ ) implying that teenage mothers became more open to engaging with health professionals after target messaging. The results showed a positive shift toward better health-seeking behaviors.

The Chi-Square results consistently indicate statistically significant changes in all the tested attitude items. These findings confirm the effectiveness of the intervention (targeted health messages) in reshaping key attitudes among teenage mothers towards optimal breastfeeding practices.

#### **Effect of target health messaging on teenage mothers' breastfeeding practices and attitudes**

ANOVA test was performed to compare mean attitudes scores before and after targeted health messaging intervention on teenage mothers. The results are shown in Table 3 below.

**Table 3: Effect of target health messaging on teenage mothers' attitudes and breastfeeding practices**

Source	Sum of Squares	Df	F	p-value	% of Total Variance
C(Test)	2.42	1	108.87	0.000002	90
Residual	0.27	12			100

The results revealed a statistically significant difference in attitudes and breastfeeding practices between the teenage mothers before and after targeted health messaging ( $F(1,12) = 108.87$ ,  $p\text{-value} < 0.05$ ). The results reveal that targeted health messaging improved teenage mother's perceptions and practices on breastfeeding. Targeted health messages among teenage mothers in public hospitals are crucial for addressing the unique challenges and barriers they face regarding breastfeeding [14]. These messages are designed to be culturally relevant, age-appropriate, and easily understandable, often incorporating visuals and relatable language to engage young mothers effectively.

Further, targeted health messaging accounted for a substantial proportion of the variance ( $SS = 2.42$  out of  $2.69$ ) equivalent to 90% of the total variance. This implies that the intervention had a strong and reliable effect in shifting the attitude levels of teenage mothers influencing their breastfeeding practices. These messages provide practical guidance on breastfeeding techniques, addressing concerns such as proper latching, frequency of feeding, and managing breastfeeding-related challenges [15]. The results show the effectiveness of targeted health communication in influencing health-related behaviors among teenage mothers.

#### **IV. Conclusion**

This study indicates overall that targeted health messaging is crucial in reshaping key attitudes among teenage mothers toward optimal breastfeeding practices as per the WHO breastfeeding recommendations. Targeted health messaging successfully encouraged more teenage mothers to value early initiation of breastfeeding and to adopt exclusive breastfeeding for 6 months. Further mothers shifted their attitudes towards breastfeeding more often, seeking professional guidance on breastfeeding practices including baby positioning, and healthy dieting. The findings indicated a strong move towards responsive feeding attitudes and health-seeking behaviors. Therefore, target messaging intervention is essential as it provides essential teachings that enable teen mothers to enhance their breastfeeding practices.

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