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A Descriptive Study of Exclusive Breastfeeding History and Nutritional Status in Toddlers Aged 12–24 Months at Tambakrejo Community Health Center, Surabaya

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ABSTRACT

The toddler stage is a vital period of growth when insufficient exclusive breastfeeding can lead to undernutrition, malnutrition, and stunting due to high nutritional needs and limited nutrient absorption. This descriptive study aimed to describe exclusive breastfeeding history and the nutritional status of toddlers aged 12–24 months at Tambakrejo Community Health Center, Surabaya. Conducted from October 2023 to March 2024, the study involved 49 toddlers selected from a population of 173 through simple random sampling. Data were collected through anthropometric measurements (weight-for-height Z-scores) and structured interviews with mothers. Analysis was performed using univariate descriptive statistics in SPSS. Results showed that 89.8% of toddlers had good nutritional status and 79.6% received exclusive breastfeeding. Exclusive breastfeeding was more common among mothers with senior high school education (69.4%) and those who were housewives (63.3%). A positive trend was observed between exclusive breastfeeding and good nutritional status. Future studies should involve larger samples and explore other contributing factors using analytical approaches.

INTRODUCTION

The toddler period is a critical stage of rapid physical and cognitive development during which children are highly vulnerable to health problems such as malnutrition, primarily due to their increased nutritional needs and sensitivity to nutrient absorption[1]. Exclusive breastfeeding, defined as the practice of feeding infants only breast milk without any additional food or liquids except for medicinal purposes until six months of age, plays a crucial role in determining the nutritional status of both mother and child. Inadequate maternal nutrition during this period, even in mothers who provide exclusive breastfeeding, may have adverse effects on both maternal and infant health[2–4].

According to the East Java Health Profile 2022, the coverage of exclusive breastfeeding up to six months in East Java was 67%, with the national coverage recorded at 67.96%. In Surabaya, the coverage was relatively higher at 87.3%. At the Tambakrejo Community Health Center in Surabaya, 39 out of 49 toddlers (79.6%) aged 12–24 months received exclusive breastfeeding. Although this figure approaches the national target, it still falls slightly short of the 80% goal[5].

Lack of exclusive breastfeeding during the first six months of life has been linked to increased risks of undernutrition, malnutrition, and stunting. Moreover, infants who are not exclusively breastfed are more susceptible to infections, impaired growth, and chronic diseases later in life[6–9]. Exclusive breastfeeding is widely recognized as one of the most effective protective factors for ensuring optimal growth, development, and nutritional status in early childhood[10–12].

In addition to its benefits for infants, exclusive breastfeeding also provides significant health advantages for mothers. It can prevent postpartum hemorrhage, delay the return of fertility, accelerate uterine involution, reduce the risk of breast cancer, and is both practical and cost-effective. Despite these well established benefits, the practice of exclusive breastfeeding remains suboptimal in certain communities, particularly in urban health settings. Therefore, this study aims to describe the history of exclusive breastfeeding and the nutritional status of toddlers aged 12–24 months at the Tambakrejo Community Health Center in Surabaya.

MATERIALS AND METHODS

The research was conducted from October 2023 to March 2024. The population consisted of 173 toddlers aged 12–24 months registered at the community health center. A total of 49 toddlers were selected as the study sample using simple random sampling from a list of eligible participants. All respondents were given clear explanations regarding the purpose and procedures of the study and signed informed consent forms. Ethical approval was also obtained for this study.

Data collection was conducted using two methods: anthropometric measurements and interviews. Nutritional status was assessed based on weight-for-height (W/H) indicators and analyzed using Z-scores according to WHO Anthro standards. Digital scales and length boards were used, following standardized calibration procedures. The history of exclusive breastfeeding was obtained through structured interviews with the mothers using a validated questionnaire. Data were processed and analyzed using the latest version of SPSS software, employing univariate descriptive analysis to determine the frequency distribution of each variable. The results are presented in the form of frequency distribution tables and descriptive narratives. Although this study is descriptive in nature, a brief cross-tabulation between exclusive breastfeeding and nutritional status is included to provide an initial overview of potential patterns, without conducting inferential statistical testing.

RESULTS

Table 1. Frequency Distribution of Respondents Regarding Toddler Characteristics, Nutritional Status Based on Weight/Height, Last Education, Mother's Occupation, Exclusive Breastfeeding, Early Breastfeeding Initiation, Practice of Exclusive Breastfeeding History

Variable	Frequency (n)	%
Toddler Age (Months)		
12	9	18,4
13	5	10,2
14	6	12,2
15	2	4,1
16	2	4,1
17	5	10,2
18	9	18,4
19	2	4,1
20	1	2
21	0	0
22	0	0
23	1	2
24	7	14,3
Toddler Gender		
Man	21	42,9
Woman	28	57,1
Nutritional Status based on BB/PB		
Malnutrition	0	0
Undernutrition	0	0
Good nutrition	44	89,8
Risk of overnutrition	1	2
overnutrition	3	6,1
obesity	1	2
Mother's Education		
Elementary school	6	12,2
Junior high school	3	6,1
Senior High School/Vocational School	34	69,4
College	6	12,2
Mother's Job		
Housewife	31	63,3
Private employees	18	36,7
Exclusive breastfeeding		
Yes	39	79,6
No	10	20,4
Early Initiation of Breastfeeding		
Yes	31	63,3
No	18	36,7
Practice History of Exclusive Breastfeeding		
Not enough	11	22,4
Enough	3	6,1
Good	35	71,4

Source: Primary Data, 2024

Based on the results, the majority of toddlers in this study were 12 and 18 months old, each accounting for 18.4% of the sample, with no respondents at 21 or 22 months. In terms of gender, 57.1% were female and 42.9% were male, indicating a relatively balanced distribution. Nutritional status based on weight-for-height (W/H) Z-scores showed that most toddlers (89.8%) had good nutritional status, while 6.1% were overweight, 2% were at risk of overnutrition, and 2% were obese. No cases of undernutrition or malnutrition were found among the respondents.

Regarding maternal characteristics, the majority of mothers had completed senior high school or vocational school (69.4%), followed by college (12.2%), elementary school (12.2%), and junior high school (6.1%). In terms of occupation, most mothers were housewives (63.3%), while the rest (36.7%) worked as private employees. These characteristics may influence child feeding practices, particularly the ability to practice exclusive breastfeeding consistently at home.

In terms of breastfeeding practices, 79.6% of toddlers had received exclusive breastfeeding, while 20.4% had not. Additionally, 63.3% of mothers practiced early initiation of breastfeeding (EIBF), and 71.4% had a good history of exclusive breastfeeding practices, while 22.4% and 6.1% were categorized as not sufficient and sufficient, respectively. These findings indicate that while the overall rate of exclusive breastfeeding is approaching the national target, there is still a need to strengthen education and support, especially for mothers with lower breastfeeding practice scores.

Table 2. Tabulation of Practice History of Breastfeeding and Nutritional Status of Toddlers at Tambakrejo Community Health Center, Surabaya

Practice history of exclusive breastfeeding	Nutritional status													
	Malnutrition		Undernutrition		Good nutrition		Risk of Overnutrition		Overnutrition		Obesity		Total	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Good	0	0	0	0	31	88,6	1	2,9	3	8,6	0	0	35	100
Enough	0	0	0	0	2	66,7	0	0	0	0	1	33,3	3	100
Not enough	0	0	0	0	11	100	0	0	0	0	0	0	11	100

Source: Primary Data, 2024

The cross-tabulation between the history of exclusive breastfeeding practices and the nutritional status of toddlers at Tambakrejo Community Health Center showed that among mothers with good breastfeeding practices, 88.6% of their children had good nutritional status, 8.6% were overnourished, and 2.9% were at risk of overnutrition. In the "enough" category, 66.7% of toddlers had good nutritional status, while 33.3% were classified as obese. Interestingly, all toddlers in the "not enough" category had good nutritional status (100%), with no cases of malnutrition or overnutrition. These findings suggest a positive trend between good exclusive breastfeeding practices and optimal nutritional status; however, they also indicate that nutritional outcomes may be influenced by multiple factors beyond breastfeeding, such as the quality of complementary feeding, parenting patterns, and socioeconomic conditions.

Table 3. Tabulation of Mother's Characteristics and Exclusive Breastfeeding at Tambakrejo Community Health Center, Surabaya

Mother's Education	Exclusive breastfeeding			
	Yes		No	
	n	%	n	%
Elementary school	5	10,2	1	2
Junior high school	1	2%	2	4,1
Senior High School/Vocational School	29	59,2	5	10,2
College	4	8,2	2	4,1
Mother's Job				
Housewife	25	51	6	12,2
Private employees	14	28,6	4	8,2

Source: Primary Data, 2024

Table 3 presents the cross-tabulation between maternal characteristics and the practice of exclusive breastfeeding. Among mothers with a senior high school or vocational school education, 59.2% provided exclusive breastfeeding, while 10.2% did not. In the elementary school group, 10.2% of mothers practiced exclusive breastfeeding and 2% did not. For those with a college education, 8.2% exclusively breastfed, while 4.1% did not. Interestingly, only 2% of junior high school graduates practiced exclusive breastfeeding, compared to 4.1% who did not. In terms of occupation, 51% of housewives practiced exclusive breastfeeding, while 12.2% did not. Among private employees, 28.6% provided exclusive breastfeeding and 8.2% did not. These findings suggest that higher maternal education, particularly at the senior high school level, is associated with a greater likelihood of practicing exclusive breastfeeding. Additionally, mothers who are housewives appear more likely to practice exclusive breastfeeding than those who work in the private sector.

DISCUSSION

This study found that most toddlers aged 12–24 months at Tambakrejo Community Health Center had good nutritional status (89.8%), and a high proportion (79.6%) received exclusive breastfeeding. While these findings appear consistent with the protective benefits of exclusive breastfeeding reported in previous studies, a more in-depth interpretation is necessary.

Nutritional Status

The research results show that 44 toddlers have good nutritional status, representing 89.8%. One toddler, representing 2%, is at risk of overnutrition; 3 toddlers, representing 6.1%, are categorized as having overnutrition; and 1 toddler, representing 2%, is categorized as obese. This is consistent with the study by Suminar and Ulfah (2022), which indicates that infants receiving exclusive breastfeeding meet their nutritional needs adequately, while infants given formula milk may receive excessive nutrition due to higher fat content compared to protein. Additionally, the method of formula feeding can also affect changes in the infant's weight[13–15]. Additionally, family socioeconomic status

and healthcare access might contribute to maintaining children's health and nutritional outcomes despite early feeding limitations.

Interestingly, in this study, no toddlers were identified as undernourished or malnourished, which is uncommon in many urban health settings. This could reflect the effectiveness of health promotion programs at the community health center or possibly an underestimation due to sample size or selection bias. It may also be influenced by respondents' willingness to participate, potentially skewing the sample toward more health-conscious families.

Exclusive Breastfeeding

Out of the toddlers, 39 received exclusive breastfeeding, representing 79.6%, while 10 did not receive exclusive breastfeeding, representing 20.4%. Interviews revealed that there is still a small number of respondents who do not practice exclusive breastfeeding. These findings are consistent with the study by Astutik (2023), which identified other Factors leading to the inability of mothers to provide exclusive breastfeeding, including mothers' perceptions of their babies' crying and issues with milk flow. Negative perceptions from mothers can lead to mistakes in decision-making, such as providing additional drinks or foods, like pureed porridge[16–18].

Last Education

The level of maternal education shows that there are 6 mothers with a primary school education (12.2%), 3 mothers with a junior high school education (6.1%), 34 mothers with a senior high school/vocational education (69.4%), and 6 mothers with higher education (12.2%). This is consistent with Ulfah's (2020) study, which found that educational level does not impact the implementation of exclusive breastfeeding for 6 months[19]. This occurs because mothers with a high school education are not lacking in seeking knowledge and information about breastfeeding through social media, thus implementing exclusive breastfeeding[20,21].

In addition, educated mothers tend to be more selective in believing myths or misinformation about breastfeeding. They are more likely to seek information from trusted sources, such as health workers or official educational media, rather than just listening to advice from the surrounding environment. Education can also affect the mother's level of confidence in dealing with breastfeeding challenges, such as decreased milk production or response to baby cries.

Mother’s Job

The frequency of maternal occupation indicates that most mothers" are housewives, totaling 31 (63.3%), while 18 mothers (36.7%) work as private employees. Housewives are more likely to provide exclusive breastfeeding compared to working mothers, as housewives have more time and opportunity to provide exclusive breastfeeding[22].

Housewives tend to have time flexibility and can respond to the baby's needs directly, including breastfeeding on demand. Meanwhile, working mothers often have to breastfeed on a scheduled

basis or give breast milk, which, if not supported by a proper storage facility or lactation room, can hinder the success of exclusive breastfeeding for a full 6 months.

Even so, this finding does not necessarily blame employment status, because many working mothers still manage to provide exclusive breastfeeding with the support of a good system, both from their families, workplaces, and health workers. Therefore, there needs to be policies that are more supportive of breastfeeding mothers, such as adequate maternity leave, breastfeeding rooms in the office, and breastfeeding education programs for working mothers.

Early Breastfeeding Initiation

Among the toddlers, 31 (63.3%) had early breastfeeding initiation, while 18 (36.7%) did not. These findings align with Ashriady's (2019) study, which emphasizes the importance of early breastfeeding initiation (IMD). IMD is a crucial step to facilitate the baby in starting the breastfeeding process. Placing a newborn on the mother's chest or abdomen allows the baby to naturally seek out the breast and begin breastfeeding, which supports the success of exclusive breastfeeding[23–25].

This study may be subject to recall bias, as data on exclusive breastfeeding history were collected through interviews with mothers who had to recall feeding practices from several months prior. Additionally, social desirability bias could have influenced responses, with some mothers potentially overstating their adherence to exclusive breastfeeding recommendations. These biases may affect the accuracy of the reported data and should be considered when interpreting the findings.

The main limitation of this study is its descriptive design and relatively small sample size, which limits the generalizability of the findings to the broader population. Moreover, the study was conducted in a single urban health center, which may not reflect conditions in rural or other socioeconomically diverse settings. The absence of analytical tests also prevents the establishment of causal relationships between exclusive breastfeeding and nutritional status.

CONCLUSION

In conclusion, this study found that the majority of toddlers at the Tambakrejo Community Health Center had good nutritional status, with a high proportion receiving exclusive breastfeeding. Exclusive breastfeeding practices were more common among mothers with higher education levels and those who were housewives, suggesting that maternal characteristics influence infant feeding behaviors. A positive trend was observed between good exclusive breastfeeding practices and optimal toddler nutrition, although all toddlers—regardless of breastfeeding practice—were generally well-nourished. These findings underscore the importance of promoting exclusive breastfeeding, early initiation of breastfeeding, and maternal education to support child nutrition. However, further research using analytical methods and broader samples is needed to establish causal relationships and explore additional contributing factors.

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