



Exclusive breastfeeding practices among women in Kei Besar Island: a descriptive study

Jessica Gloria Mogi^{1*}, Sylvia Winnie Melinda¹, Henry William Burhan²

¹Therapeutic Feeding Center, doctorSHARE (Yayasan Dokter Peduli), Kei Besar Island, Southeast Maluku, Indonesia

³Department of Internal Medicine, Prof. Dr. R. D. Kandou General Hospital, Manado, North Sulawesi, Indonesia

*Corresponding author: mogijessica@gmail.com

ABSTRAK

Latar Belakang: ASI eksklusif telah terbukti dapat mengurangi kejadian stunting dan meningkatkan pertumbuhan jangka panjang di Indonesia, serta mencegah kejadian penyakit menular seperti diare. Sebagai bagian dari strategi penurunan stunting di Indonesia, pemerintah Indonesia memasukkan ASI eksklusif sebagai salah satu dari 11 strategi intervensi spesifik. Bagaimanapun, area-area dengan prevalensi stunting yang cukup tinggi seperti Maluku Tenggara, juga cenderung memiliki prevalensi ASI eksklusif yang lebih rendah.

Tujuan: Penelitian ini bertujuan untuk menyajikan profil ibu hamil multigravida dan ibu menyusui yang memiliki bayi berusia 0-5,9 bulan, baik yang melakukan ASI eksklusif maupun yang tidak, di Pulau Kei Besar, Maluku Tenggara.

Metode: Penelitian deskriptif ini menggunakan rancangan potong lintang. Kuesioner diberikan pada 23 ibu hamil multigravida yang pernah menyusui anaknya dan 8 ibu menyusui yang memiliki bayi berusia 0-5,9 bulan untuk mempelajari karakteristik demografik, pengetahuan, dan praktik terkait menyusui. Hasil dipaparkan dalam bentuk statistik deskriptif.

Hasil: Di antara ibu hamil, 52% kekurangan pengetahuan mengenai inisiasi menyusui dini. 95.7% memeriksakan kehamilannya pada bidan, dengan 39.1% di antaranya memiliki frekuensi ANC >4 kali. Selain itu, 60.9% mengaku menyusui anak sebelumnya secara eksklusif. Di antara ibu menyusui, 75% mengakui menyusui secara eksklusif, namun 62,5% tidak tepat dalam menyebutkan definisi ASI eksklusif dan juga mengaku memberikan susu formula dalam sehari terakhir. Terdapat juga kepercayaan seperti bahwa perempuan kurus menghasilkan ASI lebih sedikit dan bahwa kandungan gizi susu formula sama dengan ASI.

Kesimpulan: : Promosi kesehatan tentang ASI eksklusif sangat penting untuk meningkatkan pengetahuan dan mengoreksi kepercayaan yang keliru. Bidan memiliki potensi untuk menjadi agen yang efektif dalam mempromosikan ASI eksklusif saat memeriksa kehamilan ibu-ibu Kei Besar.

KATA KUNCI: ASI eksklusif; Kei Besar; Maluku



ABSTRACT

Background: Exclusive breastfeeding has shown evidence of effectiveness in reducing stunting and promoting long-term growth in Indonesia, as well as preventing infectious diseases such as diarrhea. As part of stunting reduction acceleration strategies, the Indonesian government recognizes the importance of exclusive breastfeeding and includes it in the 11 specific intervention strategies. However, areas with high stunting prevalence such as Southeast Maluku, tend to also have low exclusive breastfeeding prevalence.

Objectives: This study aims to delineate the profiles of multigravida pregnant women and women with infants aged 0-5.9 months old engaged in exclusive breastfeeding and those who do not in Kei Besar Island, Southeast Maluku.

Methods: This study was an observational study with a cross-sectional design. This study was conducted on 132 premarital women of reproductive age in Bantul district who registered their marriage at the office of religious affairs. Body image measurement used Body Shape Questionnaire 34 (BSQ-34) and skipping meals behavior was measured by questionnaire. Data was analyzed with Mann-Whitney because data was not normally distributed.

Results: Among pregnant women, 52% lacked knowledge of early breastfeeding initiation. 95.7% received antenatal care from midwives, with 39.1% attending four or more times. Notably, 60.9% reported exclusively breastfeeding their previous child. Among breastfeeding mothers, 75% reported exclusive breastfeeding, but 62.5% provided incorrect definitions of breastfeeding and admitted to formula milk use within the past day. Additionally, misconceptions included beliefs that thinner women produce less breast milk and that formula milk's nutritional content resembles that of breast milk.

Conclusions: Addressing knowledge gaps and misconceptions through health education on exclusive breastfeeding is essential. Midwives have the potential to serve as effective agents in promoting exclusive breastfeeding during ANC appointments for Kei Besar mothers.

KEYWORD: exclusive breastfeeding; Kei Besar; Maluku

Article info:

Article submitted on December 2, 2023

Articles revised on December 18, 2023

Articles received on January 7, 2024

INTRODUCTION

The triple burden of malnutrition, encompassing issues like malnutrition, undernutrition, and overweight, underscores the significance of dietary choices and care as direct factors influencing the nutritional well-being of mothers and children (1). Proper feeding, including breast milk and complementary feeding after 6 months, and the mother's nutrition are crucial for children's growth, survival, and health (1). It is widely recognized in scientific literature that breastfeeding confers various advantages, including both short-term and long-term advantages. These encompass a reduced risk of conditions like diarrhea and pneumonia, a lower likelihood of future obesity and diabetes, and improvements in cognitive development, exemplified by enhanced intelligence quotient (2–6).

The current breastfeeding guidelines from the World Health Organization (WHO) emphasize initiating breastfeeding within one hour of birth, exclusive breastfeeding for the initial six months, continued breastfeeding for up to two years or more, and introduction of complementary foods after the first six months (7). These recommendations are also included in the 11 specific interventions to tackle stunting, curated by the Indonesia's Ministry of Health. These interventions aimed to start stunting prevention from pregnancy until the child is 6-23 months old (8). In the year 2022, the stunting prevalence has seen a drop from 24.4% in 2021 to 21.6% (9). However, to achieve the 2024 goal of a 14% stunting prevalence, the government must expedite progress, aiming for a minimum annual reduction of 3.8% (9,10).

From 2010 to 2018, a comprehensive analysis across 57 low- and middle-income countries (LMICs) revealed global weighted prevalence rates of 51.9% for early initiation of breastfeeding, 45.7% for exclusive breastfeeding under 6 months, and 32.0% for exclusive breastfeeding at 4-5 months (11). Furthermore, the South-east Asia/Western Pacific region displayed rates of 47.4% for early initiation of breastfeeding, 55.2% for exclusive breastfeeding under 6 months, and 41.3% for exclusive breastfeeding at 4-5 months (11). Conversely, according to the Indonesia Nutritional Status Survey (SSGI) as shown in Figure 1, while there is an increase in the number of breastfeeding, there is also a sharp drop of exclusive breastfeeding rate, from 48.2% in 2021 to 16.7% in 2022 (9).

Although there exists a disparity in the data compared to figures reported by the Indonesia National Statistic Bureau (BPS) for the same time period, which indicated a prevalence of 72.4% in exclusive breastfeeding for infants aged 6 months or younger (12), these findings underscore that over a quarter of infants in Indonesia are still not availing themselves of the benefits associated with exclusive breastfeeding. We are especially concerned about provinces with stunting prevalence above the national average, which tend to also have an exclusive breastfeeding rate that is lower than the national average

Maluku, as a province, faces the dual challenge of not only having a stunting prevalence exceeding the national average at 26.1%, but also confronting a notably low exclusive breastfeeding prevalence of just 59.2% (9,12). Focusing on the specific district of Southeast Maluku, including the Kei Islands Regency, the area grapples with an even higher stunting prevalence, surpassing both the provincial and national averages at 26.8% (9).

The decision to extend exclusive breastfeeding up to the child's sixth month is influenced by a range of factors, including the child's age, maternal education, occupation, delivery method, parity, economic circumstances, place of residence, and early breastfeeding initiation (13–15). It is crucial to consider how the diverse cultural contexts across Indonesia's

extensive geographic expanse contribute to the determinants of exclusive breastfeeding practices, despite the practice being mostly culturally-acceptable (13,16). This understanding frames the context of our study's aim, which is to delineate the profiles of women engaged in exclusive breastfeeding and those who do not, within the specific context of Kei Besar Island.

MATERIALS AND METHODS

Study Setting Description

Kei Besar Island, also known as Great Kei Island, is one of the principal islands situated within the Southeast Maluku Regency of the Maluku province. It shares this region with Kei Kecil, also known as Lesser Kei Island. The island itself is geographically subdivided into five primary sub-districts, encompassing a total land area of 558.83 km² and an estimated population of approximately 53,882 individuals (17). It is worth noting that the reported population figures may be underestimated due to certain factors. Most government offices are mostly located in Kei Kecil Island, that necessitates residents of Kei Besar to travel by ship, resulting in a somewhat limited registration system (18). Additionally, there are instances of births occurring in informal settings, resulting in the absence of official birth records or certificates (19). The administrative structure of Kei Besar includes 37 ohois, which are the smallest administrative units akin to villages (20).

In this island locale, there are 11 Community Health Centers, or Puskesmas, distributed across 5 districts. In these centers, eight districts are each equipped with a singular primary care physician (21). Additionally, situated near the district capital, there exists a non-governmental organization known as doctorSHARE, which extends primary care and nutrition services to the community (22). The Kei Besar district boasts 46 integrated health services posts, referred to as Posyandu, within each village. These Posyandu facilities, staffed by community members and healthcare providers, play an instrumental role in bolstering government initiatives to diminish maternal, infant, and under-five mortality rates (23).

Study Design

Data collection was conducted from January 2022 to March 2022, following a cross-sectional approach to obtain descriptive data relating to demographic characteristics, breastfeeding practices, and knowledge of multigravida women (women who have a history of giving birth before their current pregnancy) and breastfeeding women with children 0-5.9 months old. The study was approved by the Health Research Ethics Committee of RSUP Prof. Dr. R. D. Kandou Manado (No. 212/2022) and data collection permission was issued by the National Unity and Politics Agency of Southeast Maluku (Kesbangpol Malra) on behalf of the District Health Office (No. 070/2021).

Samples and Procedures

A total sampling method was employed to get samples for this study. Participants will be eligible for inclusion in the study if they are pregnant with a history of previous childbirth and breastfeeding, or are currently breastfeeding infants aged 0-5.9 months. They must also attend the mobile ultrasound services provided by doctorSHARE Kei. Women who don't meet these criteria will be excluded from the study. The participants hailed from three sub-districts of Kei Besar Island, namely Kei Besar sub-district (Ohoi Yamtel, Ohoi Ohoilim, Ohoi Soinrat); East Northern Kei Besar sub-district (Ohoi Haar Ohoimel, Ohoi Haar Renrahantel, Ohoi Ohoiwirin, Ohoi Watlaar); and South Kei Besar sub-district (Ohoi Weduar, Ohoi Larat, Ohoi Kilwat, Ohoi Sather, Ohoi Tutrean, Ohoi Ohoirenan).

A questionnaire was read to the pregnant women by trained midwives and nurses as a part of their antenatal appointment counseling. This questionnaire assesses the women's breastfeeding status for their previous children, knowledge about exclusive breastfeeding and early breastfeeding initiation, general nutrition knowledge, and antenatal care. Furthermore, breastfeeding women who brought their infants aged 0-5.9 months to get checked by the physicians were also included in the study and a different questionnaire that focuses more on their reasons to breastfeed, provision of food or liquid

other than breast milk in the first 6 months of their children's lives, knowledge about exclusive breastfeeding and early breastfeeding initiation, and beliefs surrounding breastfeeding practices. In total, 23 pregnant women and 8 breastfeeding women were included in the study.

Data Collection and Analysis

The questionnaire used for breastfeeding women was adapted from the 2021 WHO Indicators for Assessing Infant and Young Child Feeding Practices which has been validated and used for household surveys and data collection (24–26). This questionnaire comprises sections that pertain to various aspects, including initial post-birth feeding, current breastfeeding practices, consumption of liquids, semi-solid and solid foods, the nature of family support during breastfeeding, and the nutritional guidance received. In the case of pregnant women, the questionnaire covers topics such as general nutritional knowledge, knowledge of early breastfeeding initiation, previous child's exclusive breastfeeding status, the involvement of healthcare professionals in previous deliveries, dietary diversity, and supplement intake.

We operationalize "exclusive breastfeeding" as the practice of providing only breast milk to the infant for the first 6 months of life. "Early breastfeeding initiation" is defined as the initiation of breastfeeding within the first hour of the infant's life. Although these definitions are employed in the knowledge check, the reported proportions are based on more straightforward questions: "Do you exclusively breastfeed your child?" and "Did you initiate breastfeeding within the first hour?". For this study, we will classify breastfeeding women with infants aged 0-5.9 months as exclusively breastfeeding if they have never provided anything other than breast milk to their infant, regardless of the infant's age.

Breastfeeding practices include maternal dietary behaviors and the provision of expressed breast milk, defined as "breast milk that is manually or mechanically removed from the breast and then stored for later use" and family's help in providing expressed breast milk. Misconceptions, defined as "beliefs that deviate

from the accurate understanding of a particular topic” pertain to the nutritional content of breast milk and factors that can influence the quantity of breast milk. Participant responses were then coded, transferred into spreadsheet format, and subjected to descriptive analysis using SPSS 25 (IBM Corp, Armonk, NY).

RESULTS AND DISCUSSIONS

Demographic Characteristics

The pregnant women and breastfeeding women have similar age distribution, with the mean age of 29 years old. Around 35.5% of the women are employed, and all of them have a

minimum education of primary school. More information about participants’ demographic characteristics is presented in **Table 1**. In this study, we found that among a total of 10 employed women, encompassing both pregnant and breastfeeding mothers, 70% reported exclusively breastfeeding their infants. Additionally, from the total of 21 women without employment, 61.9% reported exclusively breastfeeding their infants. These findings align with existing literature, which suggests that employment status is a factor that diminishes the likelihood of exclusive breastfeeding and often leads to discontinuation of breastfeeding (15,27,28).

Table 1. Demographic Characteristics of Study Participants

Characteristic	Number	Percentage
Pregnant women (n=23)		
Age (years)		
20-25	5	21.6
26-30	6	26
≥31	12	52
Education		
Primary school	1	4.3
Middle school	14	60.9
High school	6	26.1
College	2	8.7
Employed		
No	16	69.6
Yes	7	30.4
Reported early breastfeeding initiation		
No	7	30.4
Yes	16	69.6
Reported exclusive breastfeeding		
No	9	39.1
Yes	14	60.9
ANC		
1 times	2	8.7
2 times	6	26.1
3 times	6	26.1
≥ 4 times	9	39.1
Breastfeeding women with infants 0-5.9 months old (n= 8)		
Age (years)		
20-25	3	37.5
26-30	1	12.5
≥31	4	50
Education		
Primary school	1	12.5
Middle school	4	50
High school	2	25

Characteristic	Number	Percentage
College	1	12.5
Employed		
No	5	62.5
Yes	3	37.5
Reported early breastfeeding initiation		
No	3	37.5
Yes	5	62.5
Reported exclusive breastfeeding		
No	2	25
Yes	6	
Helped Delivery		
Midwives	4	50
Physicians	2	25
Traditional healers	2	25

Mothers who are employed often face challenges due to their separation from their infants when they return to work. A qualitative study conducted in Depok, Indonesia, revealed that some mothers believe their breast milk production diminishes upon rejoining the workforce, which they attribute to the heightened stress experienced in their workplace (28). Working mothers encounter various obstacles in maintaining exclusive breastfeeding, including conflicts between their professional commitments, inadequate workplace support, and a lack of breastfeeding facilities. (27). Interestingly, we found that 50% of pregnant women who reported exclusively breastfeeding their previous child attended their antenatal care (ANC) appointments four times or more. Frequent ANC visits have been identified as a positive predictor of exclusive breastfeeding (15,29,30). It is noteworthy that most information about the importance of breastfeeding is disseminated during ANC visits, which has led to improved exclusive breastfeeding practice. Counseling during ANC visits has played a crucial role in enhancing mothers' confidence and dispelling negative perceptions about breastfeeding (15).

Regarding the educational background of the participants, it's worth mentioning that the majority had a middle school level of education, with 14 pregnant women and 4 breastfeeding women falling into this category. Only 2 had a primary school education, while 3 had a college education, and the remainder had a high school

education. Of those with a primary school education, 55.6% of those with a middle school education, 75% of those with a high school education, and 66.67% of those with a college education reported exclusively breastfeeding their children. While other studies have indicated a positive association between higher education levels and the likelihood of exclusive breastfeeding (29–31), our sample size did not allow us to draw the same conclusion due to the distribution of participants in each education level.

Breastfeeding practice and knowledge

The majority of the participants reported favorable breastfeeding practices, with 60.9% of pregnant women and 75% of women with infants aged 0-5.9 months indicating that they exclusively breastfeed their children. However, upon questioning, "what does exclusive breastfeeding mean?" only 37.5% was able to answer with the correct definition. Furthermore, despite over 60% of the participants confirming their adherence to early breastfeeding initiation, when asked, "What does early breastfeeding initiation mean?" only one breastfeeding woman provided the accurate definition, and less than half of the pregnant women responded correctly.

Additionally, it has come to light that half of the women with infants 0-5.9 months old who claimed to be exclusively breastfeeding their infants are currently supplementing them with formula milk. Other than formula milk, the women also admitted to giving food and other liquids to their infants in the past day (Figure 1). This

showed that the proportion of women exclusively breastfeeding was overstated due to a misinterpretation of the definition by the participants. However, in settings where mothers receive support to breastfeed or provide

expressed breast milk to their infants, exclusive breastfeeding is more likely to be achieved, as mothers have the confidence to breastfeed and the assurance that their family supports their decision (33,34)

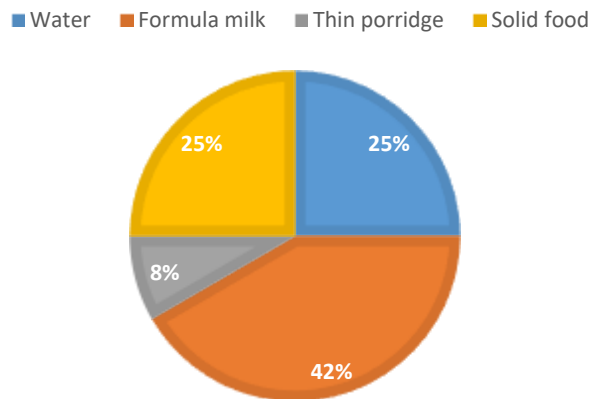


Figure 1. Food and liquids given to infants 0-5.9 months old other than breast milk.

It is concerning that, despite reporting exclusive breastfeeding, a significant proportion of the participants were unable to correctly define exclusive breastfeeding. The fact that some women who claimed to be exclusively breastfeeding their children were also supplementing them with formula milk highlights a lack of understanding of the concept of exclusive breastfeeding. Mothers with a higher level of breastfeeding knowledge are more likely to initiate early breastfeeding within an hour of birth and exclusively breastfeed their children (35,36). Given that less than 70% of the participants exhibited good knowledge of exclusive breastfeeding and early breastfeeding initiation in this study, there is an urgent need for nutrition-education interventions (37).

Maternal nutrition practices and knowledge

Only 2 pregnant women reported not consuming the iron tablets they received from Posyandu. Additionally, only 47.8% reported taking their folic acid tablets, while 65.2% reported taking multivitamin tablets. Concerning dietary habits, more than half of the women (52.2%) reported consuming 2-4 servings of

plant-based or animal-based protein daily, whereas only 47.8% reported eating 3-4 servings of vegetables or fruits each day.

A significant proportion of pregnant women, 95.7%, exhibited knowledge of the importance of a balanced and nutritious diet during pregnancy, understanding that it should include sources of carbohydrates, animal-based or plant-based proteins, vegetables, and fruits. Moreover, 87% were aware of the necessity of consuming iron and folic acid tablets for a minimum of 90 days before and during pregnancy. However, this same group believed that during pregnancy, it was necessary to consume twice their usual portion to accommodate the developing fetus. In terms of food selection, 39.1% of pregnant women admitted to not choosing their meals daily, with the mother or mother-in-law making these choices for 44.4% of them, while the remaining 55.6% had their husbands involved in meal selection.

A supportive family environment was reported by 91.3% of pregnant women, and 69.6% acknowledged their families as valuable sources of pregnancy-related information. It is noteworthy that the primary source of

information on healthy foods for pregnant women, cited by the majority (87%), was the midwives at Posyandu. This information included guidance on healthy food options,

foods rich in calcium and iron, and normal weight gain during pregnancy. The summary of nutrition knowledge and practices among pregnant women is presented in **Figure 2**.

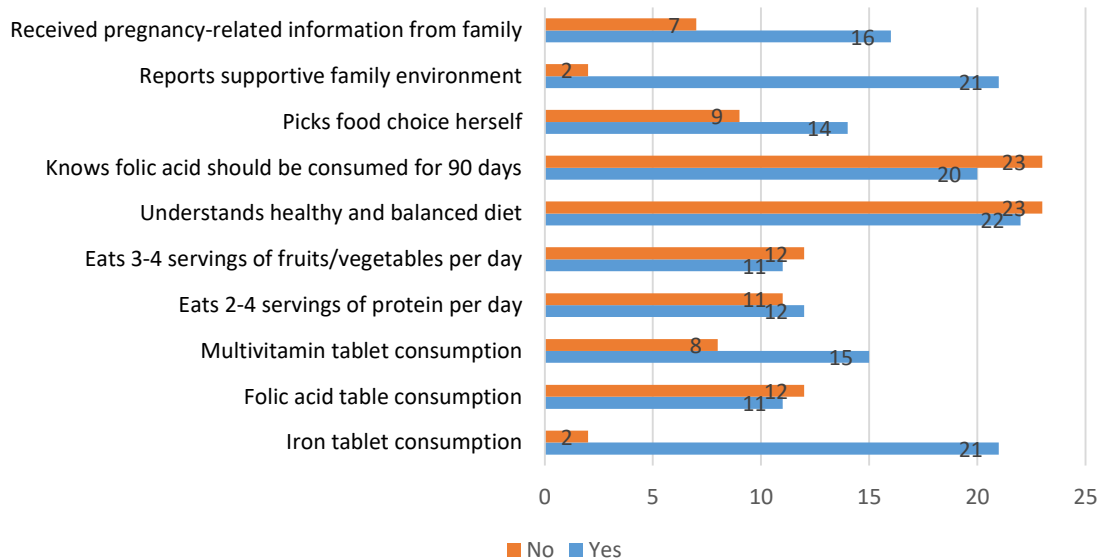


Figure 2. Maternal Nutrition Knowledge and Practices

Given the positive impact of antenatal care visits on the likelihood of exclusive breastfeeding (15,29,30,38), it is crucial to emphasize the role of midwives and healthcare professionals who conduct these examinations in providing exclusive breastfeeding counseling. During these counseling sessions, women may seek information about the physiology of breastfeeding, signs of sufficient milk supply, and methods to increase breast milk supply (34). It is vital for midwives to convey this information accurately and ensure that mothers fully understand it. Misunderstandings can lead to mothers introducing other foods or liquids to their infants instead of adhering to exclusive breastfeeding (39).

Interventions aimed at increasing the prevalence of exclusive breastfeeding in this population should involve various stakeholders, including pregnant and breastfeeding women, their families (including husbands), and midwives or healthcare providers. The social environment in which a woman resides

significantly influences her nutritional well-being and, consequently, her decision regarding exclusive breastfeeding. Therefore, families should also be targeted for exclusive breastfeeding education to increase knowledge, while midwives should receive training to deliver consistent, effective counseling about exclusive breastfeeding to their clients. Strategies to address low knowledge indicators may involve building upon existing knowledge and enhancing understanding through discussions, lectures, slides, and presentations (37).

Misconceptions about breastfeeding

When asked about their reasons for breastfeeding, 87.5% of the breastfeeding women mentioned health benefits as the primary motivation. Within the same group, 28.6% also expressed the belief that it's a social requirement, while 71.4% cited economic reasons, particularly the high cost of formula milk. These women were able to articulate the advantages of breastfeeding for both their

infants and themselves, including enhancing their babies' immunity, contributing to their brain and organ development, fostering a loving bond between mothers and infants, and recognizing that increased breastfeeding leads to higher milk production.

However, 25% of these women believed that the nutritional content in formula milk is equivalent to that in breast milk, viewing the two as interchangeable. Moreover, over half of the women (62.5%) lacked awareness of the potential negative consequences of introducing foods or liquids other than breast milk to infants under 6 months of age. Additionally, 37.5% held the belief that thinner women produce less milk, leading them to doubt the sufficiency of their milk production and opt for formula milk supplementation (Figure 3).

Seventy-five percent of these women acknowledged receiving information from healthcare workers regarding nutrition and health during breastfeeding, with 50% reporting that they had been educated about exclusive breastfeeding. Additionally, 62.5% had learned about early breastfeeding initiation, colostrum, nutritional requirements while breastfeeding, as well as the correct latching and breastfeeding techniques. . . The misconceptions and beliefs that hindered women in this study from breastfeeding their infants are also found in the literature from around the world. The most

common misconception is the belief that the quantity and nutritional content of a mother's breast milk are insufficient, leading them to supplement their babies with formula milk or other foods, liquids, and herbs (38–40). It's important to recognize that a mother has the potential to produce more breast milk than the average intake of a single infant. This has been demonstrated by the fact that mothers who exclusively breastfeed twins and triplets often produce more breast milk than mothers with a single infant (41,42). Furthermore, various factors related to both the infant and the mother can influence the quantity and quality of breast milk. Research indicates that more frequent nursing, especially during the early postpartum period, has a positive impact on breast milk production (43,44). While there is considerable variation among individual infants in terms of their need for sucking, it is advisable to practice on-demand breastfeeding, with a minimum of eight feedings per day during the initial postpartum period (45). This approach is recommended to ensure the appropriate hormonal stimulation of the mammary gland (45).

On the infant's side, other factors such as birth weight, gestational age at delivery, and the infant's self-regulation (suckling demand) also play a role in breastfeeding success (43,45).

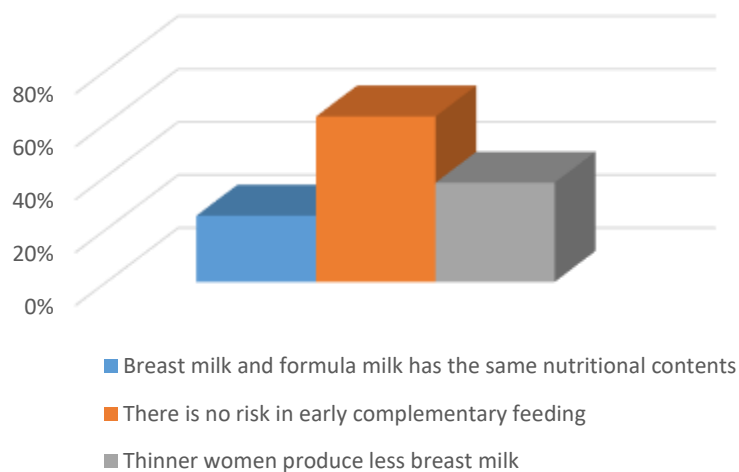


Figure 3. Misconceptions found among breastfeeding women

Maternal factors, including stress and acute illness, can impact the milk-ejection reflex and maternal behaviors, such as substance use, smoking, and excessive alcohol consumption, can affect milk volume by inhibiting the effects of prolactin and oxytocin or blocking the milk-ejection reflex (45–48).

Another prevalent misconception pertains to the belief that thinner women produce less milk. Research in industrialized countries, such as the United States, has shown that there is no significant association between a lower body mass index and the volume of milk production (49). However, in other less industrialized countries, the situation is more complex and influenced by additional variables, such as maternal undernutrition (50). Nevertheless, misconceptions and cultural beliefs are influential factors in the outcomes of exclusive breastfeeding and should be addressed during counseling sessions at ANC visits (15,38–40).

Strengths and Limitations

As per the authors' research, this is the first study that examines the profiles of mothers engaged in exclusive breastfeeding in Southeast Maluku. It has shed light on potential factors that may impact the continuity of exclusive breastfeeding, thereby informing tailored nutrition interventions. The study has also highlighted the flaws in existing intervention methods, such as the need to improve the effectiveness of nutrition information delivery through healthcare professionals.

However, this study has several limitations. First, the sample size is relatively small and may not be representative of the general population of pregnant and breastfeeding women in Kei Besar Island. The samples may also be affected by selection bias, as patients who sought mobile ultrasound services tended to have a higher awareness of health, potentially excluding women with lower health awareness. Lastly, the study's descriptive design does not allow us to establish associations between the characteristic variables and the reports of exclusive breastfeeding. These limitations

should be considered when interpreting the study's results. Future research should aim to include a more diverse population and a larger sample size. Analytic approaches should be employed to establish associations, and a mixed-method approach should be used to incorporate perspectives and experiences that may influence breastfeeding decisions among women.

CONCLUSIONS AND RECOMMENDATIONS

The results of this study reveal a persistent lack of knowledge among pregnant and breastfeeding women on Kei Besar regarding exclusive breastfeeding. Furthermore, misconceptions are prevalent, serving as barriers to adhering to the recommended practice of providing infants with only breast milk for the first six months of life. Addressing this knowledge gap and misconceptions is of paramount importance, and it necessitates the implementation of effective nutrition education strategies. To achieve this, it is imperative to conduct training sessions for midwives at Posyandu, enhancing their capacity to promote and support exclusive breastfeeding during antenatal visits. The active involvement of families is equally crucial, as they exert a significant influence on women's nutrition intake and breastfeeding decisions. Consequently, families should be targeted as a part of future intervention efforts.

REFERENCES

1. UNICEF. UNICEF Conceptual Framework on Maternal and Child Nutrition. Nutr Child Dev Sect Program Gr 3 United Nations Plaza New York, NY 10017, USA [Internet]. 2021;2–3. Available from: www.unicef.org/nutrition
2. Sankar MJ, Sinha B, Chowdhury R, Bhandari N, Taneja S, Martines J, et al. Optimal breastfeeding practices and infant and child mortality: A systematic review and meta-analysis. *Acta Paediatr Int J Paediatr*. 2015;104:3–13.
3. Lamberti LM, Irena Zakarija-Grković, Christa L Fischer Walker, Theodoratou E,

- Nair H, Harry Campbell, et al. Breastfeeding for reducing the risk of pneumonia morbidity and mortality in children under two: a systematic literature review and meta-analysis. 2013;13(Suppl 3(S18):1–8. Available from: <http://www.biomedcentral.com/1471-2458/13/S3/S18>
4. Horta BL, Victora CG. Long-term health effects of breastfeeding: a series of systematic reviews [Internet]. World Health Organization. Geneva: World Health Organization; 2013. 1–67 p. Available from: <https://iris.who.int/bitstream/handle/10665/79198/97892?sequence=1>
 5. Santiago ACT, Cunha LPM da, Vieira NSA, Oliveira Moreira LM, Oliveira PR de, Lyra PPR, et al. Breastfeeding in children born small for gestational age and future nutritional and metabolic outcomes: a systematic review. *J Pediatr (Rio J)* [Internet]. 2019;95(3):264–74. Available from: <https://doi.org/10.1016/j.jpmed.2018.06.013>
 6. Lamberti LM, Walker CLF, Noiman A, Victora C, Black RE. Breastfeeding and the risk for diarrhea morbidity and mortality. *J Orthop Sci.* 2011;11(Suppl 3(S15):1–12.
 7. World Health Organization: WHO. & United Nation Children Fund: UNICEF. Global strategy for infant and young child feeding. Fifty-fourth world Heal Assem [Internet]. 2003;(1):5. Available from: http://www.who.int/nutrition/publications/gs_infant_feeding_text_eng.pdf
 8. Direktorat Promosi Kesehatan dan Pemberdayaan Masyarakat. Materi Intervensi Spesifik untuk Percepatan Penurunan Stunting [Internet]. Jakarta; 2023 Feb [cited 2023 Apr 28]. Available from: <https://promkes.kemkes.go.id/materi-intervensi-spesifik-untuk-percepatan-penurunan-stunting>
 9. Direktorat Promosi Kesehatan dan Pemberdayaan Masyarakat. Materi Hasil Survei Status Gizi Indonesia (SSGI) 2022 [Internet]. Jakarta; 2023 Feb [cited 2023 Apr 28]. Available from: <https://promkes.kemkes.go.id/materi-hasil-survei-status-gizi-indonesia-ssgi-2022>
 10. Sekretariat Wakil Presiden Republik Indonesia. Rakornas 2023: Pastikan Prevalensi Stunting Turun Menjadi 14% pada Tahun 2024 [Internet]. Kementerian Sekretariat Negara RI Sekretariat Wakil Presiden; 2023 [cited 2023 Oct 15]. Available from: <https://stunting.go.id/rakornas-2023-pastikan-prevalensi-stunting-turun-menjadi-14-pada-tahun-2024/>
 11. Zong X, Wu H, Zhao M, Magnussen CG, Xi B. Global prevalence of WHO infant feeding practices in 57 LMICs in 2010–2018 and time trends since 2000 for 44 LMICs. *EClinicalMedicine.* 2021;37:1–9.
 12. Badan Pusat Statistik. Persentase Bayi Usia Kurang Dari 6 Bulan yang Mendapatkan Asi Eksklusif Menurut Provinsi (Persen), 2020-2022 [Internet]. Badan Pusat Statistik. 2023. Available from: <https://www.bps.go.id/indicator/30/1340/1/persentase-bayi-usia-kurang-dari-6-bulan-yang-mendapatkan-asi-eksklusif-menurut-provinsi.html>
 13. Idris H, Astari DW. The practice of exclusive breastfeeding by region in Indonesia. *Public Health* [Internet]. 2023;217:181–9. Available from: <https://doi.org/10.1016/j.puhe.2023.02.002>
 14. Karima UQ, Herbawani CK, Puspita ID, Pristya TYR, Choirunisa S. Determinants of Exclusive Breastfeeding Practice in Indonesia: Analysis of Demographic and Health Surveys Program (DHS) 2017. 2020;30(Ichd):339–46.
 15. Gayatri M. Exclusive Breastfeeding Practice in Indonesia: A Population-Based Study. *Korean J Fam Med.* 2021;42(5):395–402.
 16. Roberts TJ, Carnahan E, Gakidou E. Can breastfeeding promote child health equity? A comprehensive analysis of breastfeeding patterns across the developing world and what we can learn from them. *BMC Med.* 2013 Dec 4;11(1):254.
 17. Bagian Organisasi Sekretariat Daerah Kabupaten Maluku Tenggara. Laporan Kinerja Instansi Pemerintah (LKIP) Kabupaten Maluku Tenggara Tahun 2021 [Internet]. Maluku Tenggara; 2021. Available from: <https://malukutenggarakab.go.id/web/download/dokumen-daerah.html?download=26:laporan-kinerja->

18. instansi-pemerintah-tahun-2021
19. Leisubun G. Pelayanan e-KTP Di Pulau Kei Besar Dipusatkan Pada Kantor Camat Setempat [Internet]. Maluku Post. 2021 [cited 2023 Jan 28]. Available from: <https://malukupost.com/2021/11/pelayanan-e-ktp-di-pulau-kei-besar-dipusatkan-pada-kantor-camat-setempat/>
20. Sekretariat Wakil Presiden Republik Indonesia. Data Provinsi Maluku terkait dengan Stunting di 35 Kabupaten/Kota Prioritas Kemiskinan Ekstrim [Internet]. Kementerian Sekretariat Negara Indonesia. 2021 [cited 2022 Aug 9]. Available from: <https://stunting.go.id/data-provinsi-maluku-terkait-dengan-stunting-di-35-kabupaten-kota-prioritas-kemiskinan-ekstrim/>
21. Statistics Bureau of Maluku Tenggara Regency. Maluku Tenggara Regency in Figures 2021 [Internet]. BPS-Statistics of Maluku Tenggara Regency, editor. BPS-Statistics of Maluku Tenggara Regency. Maluku Tenggara: BPS-Statistics of Maluku Tenggara Regency; 2021. 115–139 p. Available from: <https://malukutenggarakab.bps.go.id>
22. Center of Data and Information M of HR of I. Data Dasar Puskesmas Kondisi 31 Desember 2018 Provinsi Maluku. Jakarta; 2019.
23. Sumirat PA. Panti Rawat Gizi doctorSHARE Kembali Diaktifkan. In: Sumirat PA, editor. Media Berbagi doctorSHARE Edisi 1/2019 [Internet]. 1st ed. Jakarta; 2019. p. 26–7. Available from: https://www.doctorshare.org/download-attachment/0c2fCDbFXVq2M1J_2kl_yg3J8IU3HAIWY87AV2mPI0o,
24. Kemenkes RI. Pedoman Umum Pengelolaan Posyandu. Vol. 5, Kementrian Kesehatan RI. Jakarta: Kementerian Kesehatan Republik Indonesia Pusat Promosi Kesehatan; 2011. 40–51 p.
25. UNICEF. Indicators for Assessing Infant and Young Child Feeding Practices [Internet]. Vol. WHA55 A55/, World Health Organization. 2010. 19 p. Available from: http://apps.who.int/iris/bitstream/handle/10665/44306/9789241599290_eng.pdf?sequence=1%0Ahttp://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf%5Cnhttp://www.unicef.org/programme/breastfeeding/innocenti.htm%5Cnhttp://innocenti15.net/declaration.
26. Daelmans B, Dewey K, Arimond M. New and updated indicators for assessing infant and young child feeding. *Food Nutr Bull.* 2009;30(2):256–62.
27. Saxena V, Verma N, Mishra A, Jain B. Assessment of Infant and Young Child Feeding (IYCF) practices in rural areas of Dehradun, Uttarakhand. *J Fam Med Prim Care* [Internet]. 2022;11(7):3740–5. Available from: <http://www.jfmpc.com/article.asp?issn=2249-4863;year=2017;volume=6;issue=1;spage=169;epage=170;aulast=Faizi>
28. Chekol DA, Biks GA, Gelaw YA, Melsew YA. Exclusive breastfeeding and mothers' employment status in Gondar town, Northwest Ethiopia: a comparative cross-sectional study. *Int Breastfeed J.* 2017 Dec 17;12(1):27.
29. Februhartanty J, Wibowo Y, Fahmida U, Roshita A. Profiles of Eight Working Mothers Who Practiced Exclusive Breastfeeding in Depok, Indonesia. *Breastfeed Med.* 2012 Feb;7(1):54–9.
30. Jama A, Gebreyesus H, Wubayehu T, Gebregyorgis T, Teweldemedhin M, Berhe T, et al. Exclusive breastfeeding for the first six months of life and its associated factors among children age 6-24 months in Burao district, Somaliland. *Int Breastfeed J.* 2020 Dec 30;15(1):5.
31. Ogbo FA, Dhimi MV, Awosemo AO, Olusanya BO, Olusanya J, Osuagwu UL, et al. Regional prevalence and determinants of exclusive breastfeeding in India. *Int Breastfeed J.* 2019 Dec 16;14(1):20.
32. Vijayalakshmi P, Susheela T, Mythili D. Knowledge, attitudes, and breast feeding practices of postnatal mothers: A cross sectional survey. *Int J Health Sci (Qassim).* 2015 Oct;9(4):364–74.
33. Talbert AW, Tsofa B, Mumbo E, Berkley JA, Mwangome M. Knowledge of, and attitudes to giving expressed breast milk to infants in rural coastal Kenya; focus group discussions of first time mothers and their advisers. *Int Breastfeed J.* 2018;13:16.
34. Sosseh SAL, Barrow A, Lu ZJ. Cultural beliefs, attitudes and perceptions of

35. lactating mothers on exclusive breastfeeding in The Gambia: an ethnographic study. *BMC Womens Health* [Internet]. 2023;23(1):1–15. Available from: <https://doi.org/10.1186/s12905-023-02163-z>
36. Blixt I, Johansson M, Hildingsson I, Papoutsi Z, Rubertsson C. Women's advice to healthcare professionals regarding breastfeeding: "offer sensitive individualized breastfeeding support"- an interview study. *Int Breastfeed J*. 2019 Dec 16;14(1):51.
37. Mary JJF, Sindhuri R, Kumaran AA, Dongre AR. Early initiation of breastfeeding and factors associated with its delay among mothers at discharge from a single hospital. *Clin Exp Pediatr*. 2022 Apr;65(4):201–8.
38. Zhang Z, Zhu Y, Zhang L, Wan H. What factors influence exclusive breastfeeding based on the theory of planned behaviour. *Midwifery*. 2018 Jul;62:177–82.
39. Food and Agriculture Organization (FAO). Guidelines for assessing nutrition-related Knowledge, Attitudes and Practices Manual [Internet]. Food and Agriculture Organization of the United Nations. 2014. 1–188 p. Available from: www.fao.org/docrep/019/i3545e/i3545e00.htm
40. Maonga AR, Mahande MJ, Damian DJ, Msuya SE. Factors Affecting Exclusive Breastfeeding among Women in Muheza District Tanga Northeastern Tanzania: A Mixed Method Community Based Study. *Matern Child Health J*. 2016 Jan 4;20(1):77–87.
41. Mogre V, Dery M, Gaa PK. Knowledge, attitudes and determinants of exclusive breastfeeding practice among Ghanaian rural lactating mothers. *Int Breastfeed J*. 2016 Dec 17;11(1):12.
42. Pemo K, Phillips D, Hutchinson AM. Midwives' perceptions of barriers to exclusive breastfeeding in Bhutan: A qualitative study. *Women and Birth*. 2020 Jul;33(4):e377–84.
43. Casey CE, Neifert MR, Seacat JM, Neville MC. Nutrient intake by breast-fed infants during the first five days after birth. *Am J Dis Child*. 1986 Sep;140(9):933–6.
44. Saint L, Maggiore P, Hartmann PE. Yield and nutrient content of milk in eight women breast-feeding twins and one woman breast-feeding triplets. *Br J Nutr*. 1986 Jul 9;56(1):49–58. De Carvalho M, Robertson S, Merkatz R, Klaus M. Milk intake and frequency of feeding in breast fed infants. *Early Hum Dev*. 1982 Nov;7(2):155–63.
45. Hopkinson JM, Schanler RJ, Garza C. Milk production by mothers of premature infants. *Pediatrics*. 1988 Jun;81(6):815–20.
46. Institute of Medicine (US) Committee on Nutritional Status During Pregnancy and Lactation. Milk Volume. In: *Nutrition During Lactation* [Internet]. Washington (DC): National Academies Press (US); 1991. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK235589/>
47. Lawrence RA. Breastfeeding: A Guide for the Medical Profession. 3rd ed. Berger K, editor. St. Louis: C.V. Mosby; 1989. 652 p.
48. Cobo E. Effect of different doses of ethanol on the milk-ejecting reflex in lactating women. *Am J Obstet Gynecol*. 1973 Mar;115(6):817–21.
49. Andersen AN, Lund-Andersen C, Larsen JF, Christensen NJ, Legros JJ, Louis F, et al. Suppressed Prolactin But Normal Neurophysin Levels In Cigarette Smoking Breast-Feeding Women. *Clin Endocrinol (Oxf)*. 1982 Oct;17(4):363–8.
50. Butte NF, Garza C, Stuff J, Smith E, Nichols B. Effect of maternal diet and body composition on lactational performance. *Am J Clin Nutr*. 1984 Feb;39(2):296–306.
51. Brown KH, Akhtar NA, Robertson AD, Ahmed MG. Lactational capacity of marginally nourished mothers: relationships between maternal nutritional status and quantity and proximate composition of milk. *Pediatrics*. 1986 Nov;78(5):909–19.