



EVALUATION OF THE IMPLEMENTATION OF THE TEN STEPS TO SUCCESSFUL BREASTFEEDING

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ABSTRACT

Exclusive breastfeeding is an important strategy to reduce infant morbidity and mortality. The Indonesian government has implemented the Ten Steps to Successful Breastfeeding (TSSB) policy through Government Regulation No. 33 of 2012. However, the coverage of exclusive breastfeeding in Tangerang Regency remains below the national target of 80%. This study aimed to evaluate the implementation of the Ten Steps to Successful Breastfeeding in public health centers and analyze factors influencing exclusive breastfeeding success. This study used a quantitative case-control design. The case group consisted of inpatient PONE health centers and the control group consisted of non-inpatient PONE health centers in Tangerang Regency. A total of 528 respondents participated in the study, including 176 health workers and 352 breastfeeding mothers with infants aged 6–12 months, selected using purposive stratified sampling. Data were collected using validated questionnaires and analyzed using univariate, bivariate (chi-square), and multivariate (multiple logistic regression) analyses. The results showed a significant relationship between the implementation of the Ten Steps to Successful Breastfeeding and the success of exclusive breastfeeding ($p < 0.05$). Among mothers, knowledge, attitude, family support, and health worker support were significantly associated with exclusive breastfeeding. Among health workers, knowledge, attitude, and the availability of facilities and infrastructure were significantly related to the implementation of the program. Health worker support was identified as the most dominant factor influencing exclusive breastfeeding success. In conclusion, the implementation of the Ten Steps to Successful Breastfeeding plays an important role in increasing exclusive breastfeeding coverage. Strengthening health worker support and improving facilities in health centers are necessary to enhance the success of exclusive breastfeeding programs.

Keywords: breastfeeding support; exclusive breastfeeding; health center; program implementation; ten steps breastfeeding

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INTRODUCTION

Breast milk, commonly known in Indonesia as ASI (Air Susu Ibu), is the best source of nutrition for infants in the first six months of life. Exclusive breastfeeding (ASI eksklusif) has been proven to support optimal infant growth and development, as well as provide protection against various infectious diseases, including diarrhea and respiratory tract infections (World Health Organization, 2021). The World Health Organization recommends exclusive breastfeeding for the first six months of life, followed by the introduction of complementary foods until the age of two years or beyond (World Health Organization, 2023). Globally, exclusive breastfeeding coverage has not yet reached the expected target. Recent reports indicate that global exclusive breastfeeding coverage is in the range of 44–48%, which is still far from the global target of 70% by 2030 (UNICEF, 2023; World Health Organization, 2022). This indicates that there are still major challenges in improving breastfeeding practices in various countries.

In Indonesia, exclusive breastfeeding (ASI eksklusif) coverage has shown an upward trend in recent years, although it has not fully reached the national target of 80%. Data shows that exclusive breastfeeding coverage in 2023 reached around 68% (Ministry of Health of the Republic of Indonesia, 2024). Nevertheless, there are still disparities between regions, indicating that the success of the exclusive breastfeeding program is not yet evenly distributed. At the regional level, specifically in Banten Province and Tangerang Regency, exclusive breastfeeding coverage remains relatively lower compared to the national target. Based on the regional health profile, exclusive breastfeeding coverage in Tangerang Regency ranges from 60% to 66% (Ministry of Health of the Republic of Indonesia, 2024). This condition highlights the need for more intensive efforts to improve breastfeeding practices at the primary health care level.

The Government of Indonesia has established various policies to increase the success of exclusive breastfeeding, one of which is through the Ten Steps to Successful Breastfeeding (Sepuluh Langkah Menuju Keberhasilan Menyusui/10 LMKM) program, which is an adaptation of the Baby-Friendly Hospital Initiative (BFHI) (Ministry of Health of the Republic of Indonesia, 2020; World Health Organization & UNICEF, 2018). This program aims to create a health care environment that supports breastfeeding practices through policies, capacity building for health workers, and the provision of support to nursing mothers.

However, the implementation of the program in health care facilities is still not optimal. Several recent studies indicate that constraints in the implementation of the 10 LMKM include limited human resources, lack of health worker training, and low institutional support for breastfeeding practices (Titaley et al., 2021; Rollins et al., 2023). Therefore, an evaluation of the 10 LMKM implementation at the primary health care level is needed to identify the factors influencing the success of the exclusive breastfeeding program.

METHOD

This study used a quantitative approach with a case-control design. The research was conducted at Public Health Centers (Puskesmas) in Tangerang Regency, consisting of inpatient PONED Public Health Centers and non-inpatient PONED Public Health Centers. The study population consisted of health workers working at the public health centers and nursing mothers with infants aged 6–12 months. The study sample totaled 528 respondents, consisting of 176 health workers and 352 nursing mothers. The sampling technique used was purposive stratified sampling.

The research instrument used a questionnaire that had been tested for its validity and reliability. The variables studied included maternal knowledge, maternal attitudes, family support, health worker support, health worker knowledge, health worker attitudes, as well as the availability of facilities and infrastructure. Data collection was carried out through the completion of questionnaires by the respondents. Data analysis was conducted univariately to observe the frequency distribution of the variables, bivariately using the chi-square test to determine the relationships between variables, and multivariately using multiple logistic regression to determine the dominant factor. This study has obtained ethical approval from the health research ethics committee under letter number KEPK/UMP/105/XI/2025.

RESULT

Table 1.
Characteristics of Public Health Centers Based on Status

Public Health Center Status	f	%
Non-Inpatient PONED	37	84,1
Inpatient PONED	7	15,9

Table 1 shows the distribution of public health center characteristics based on service status. Of the total 44 public health centers serving as research locations, the majority were non-inpatient PONED Public Health Centers, totaling 37 centers (84.1%), while inpatient PONED Public Health Centers

accounted for 7 centers (15.9%). This finding indicates that PONE services in the study area are more widely available in public health centers with non-inpatient service systems compared to those with inpatient facilities.

Table 2.
Distribution of Maternal Knowledge, Attitude, and Support

Variable	Category	f	%
Maternal Knowledge	Poor	195	55,4
	Good	157	44,6
Maternal Attitudes	Negative	189	53,7
	Positive	163	46,3
Family Support	No Support	144	40,9
	Support received	208	59,1
Health Worker Support	No Support	173	49,1
	Support received	179	50,9

Table 2, the distribution of respondent characteristics shows that the majority of mothers have poor knowledge regarding exclusive breastfeeding, totaling 195 respondents (55.4%), while respondents with good knowledge amounted to 157 respondents (44.6%). This finding indicates that the mothers' level of understanding regarding the benefits and practices of exclusive breastfeeding still needs to be improved. Regarding the attitude variable, more than half of the respondents had a negative attitude toward exclusive breastfeeding, namely 189 respondents (53.7%), while respondents with a positive attitude amounted to 163 respondents (46.3%). This indicates that there are still perceptions or beliefs that are less supportive of exclusive breastfeeding practices among some mothers.

Based on the family support aspect, the majority of respondents stated that they received support from their family, totaling 208 respondents (59.1%), while 144 respondents (40.9%) did not receive family support. Family support is one of the important factors that can influence a mother's success in practicing exclusive breastfeeding. Meanwhile, regarding the health worker support variable, the number of respondents who received support and those who did not receive support was relatively balanced. A total of 179 respondents (50.9%) stated that they received health worker support, while 173 respondents (49.1%) did not receive support. This condition indicates that the role of health workers in providing education and support to nursing mothers still needs to be enhanced to support the success of the exclusive breastfeeding program. Furthermore, a bivariate analysis was conducted to determine the relationship between the variables of knowledge, attitudes, family support, and health worker support with the success of exclusive breastfeeding.

Table 3.
Relationship between Maternal Factors and the Success of Exclusive Breastfeeding

Variable	Non-exclusive breastfeeding f (%)	Exclusive breastfeeding f (%)	p-value	OR
Knowledge				
Poor	117 (66,5)	78 (44,3)	0,000	2,50
Good	59 (33,5)	98 (55,7)		
Attitudes				
Negative	121 (64,0)	68 (36,0)	0,000	3,49
Positive	55 (33,7)	108 (66,3)		
Family Support				
No Support	102 (70,8)	42 (29,2)	0,000	4,39
Support received	74 (35,6)	134 (64,4)		
Dukungan Nakes				
No Support	125 (72,3)	48 (27,7)	0,000	6,54
Support received	51 (28,5)	128 (71,5)		

Based on the results of the bivariate analysis, it is known that maternal knowledge has a significant relationship with exclusive breastfeeding ($p < 0.05$). Mothers with poor knowledge are more likely to not practice exclusive breastfeeding compared to mothers with good knowledge. The analysis results indicate that mothers with poor knowledge are approximately 2.5 times more likely to not

practice exclusive breastfeeding compared to mothers with good knowledge. Regarding the maternal attitudes variable, the study results also show a significant relationship with exclusive breastfeeding ($p < 0.05$). Mothers with negative attitudes toward exclusive breastfeeding were more frequently found in the group that did not practice exclusive breastfeeding compared to mothers with positive attitudes. The odds ratio value indicates that mothers with negative attitudes are approximately 3.49 times more likely to not practice exclusive breastfeeding compared to mothers with positive attitudes. The analysis results also show that family support has a significant relationship with exclusive breastfeeding ($p < 0.05$). Mothers who did not receive family support were more frequently found in the group that did not practice exclusive breastfeeding compared to mothers who received family support. Mothers who did not receive family support are approximately 4.39 times more likely to not practice exclusive breastfeeding.

In addition, health worker support also has a significant relationship with exclusive breastfeeding ($p < 0.05$). Mothers who did not receive support from health workers were more frequently found in the group that did not practice exclusive breastfeeding compared to mothers who received health worker support. The odds ratio value indicates that mothers who did not receive health worker support are approximately 6.54 times more likely to not practice exclusive breastfeeding compared to mothers who received health worker support. The results of this study indicate that the factors of knowledge, attitudes, family support, and health worker support play an important role in the success of exclusive breastfeeding.

Table 4.
Relationship between Health Worker Factors and the Implementation of the 10 LMKM

Variable	Not achieved f (%)	Achieved f (%)	p-value	OR
Healthcare workers' knowledge				
Poor	54 (67,5)	26 (32,5)	0,003	2,56
Good	43 (44,8)	53 (55,2)		
Healthcare workers' attitudes				
Negative	50 (63,3)	29 (36,7)	0,049	1,83
Positive	47 (48,5)	50 (51,5)		
Facilities and infrastructure				
Unavailable	63 (69,2)	28 (30,8)	0,000	3,38
Available	34 (40,0)	51 (60,0)		

Table 4, it is known that there is a relationship between health worker knowledge and the implementation of the Ten Steps to Successful Breastfeeding (10 LMKM). Health workers with poor knowledge were mostly found in the unachieved implementation group, totaling 54 respondents (67.5%), while in the achieved implementation group there were 26 respondents (32.5%). Conversely, among health workers with good knowledge, the majority were in the achieved implementation group, namely 53 respondents (55.2%), compared to 43 respondents (44.8%) in the unachieved group. The results of the statistical analysis show a significant relationship between health worker knowledge and the implementation of the 10 LMKM ($p = 0.003$), with an Odds Ratio (OR) of 2.56, which means that health workers with poor knowledge have approximately a 2.56 times greater probability of not achieving the implementation of the 10 LMKM compared to health workers with good knowledge.

Regarding the health worker attitudes variable, the study results also show a significant relationship with the implementation of the 10 LMKM ($p = 0.049$). Health workers with negative attitudes were more frequently found in the unachieved implementation group, namely 50 respondents (63.3%), compared to the achieved implementation group with 29 respondents (36.7%). Meanwhile, among health workers with positive attitudes, the majority were in the achieved implementation group, totaling 50 respondents (51.5%), compared to the unachieved group with 47 respondents (48.5%). The OR value of 1.83 indicates that health workers with negative attitudes are approximately 1.83

times more likely to not achieve the implementation of the 10 LMKM compared to health workers with positive attitudes.

Furthermore, regarding the facilities and infrastructure variable, the analysis results show a significant relationship with the implementation of the 10 LMKM ($p = 0.000$). Health workers working in health facilities that do not have adequate facilities and infrastructure were mostly in the unachieved implementation group, totaling 63 respondents (69.2%), while the achieved group had 28 respondents (30.8%). Conversely, in health facilities that have adequate facilities and infrastructure, the implementation was mostly achieved, with 51 respondents (60.0%), compared to the unachieved group with 34 respondents (40.0%). The Odds Ratio (OR) of 3.38 indicates that health facilities lacking adequate facilities and infrastructure are approximately 3.38 times more likely to not achieve the implementation of the 10 LMKM compared to facilities with adequate facilities and infrastructure. Overall, the analysis results indicate that health worker knowledge, health worker attitudes, and the availability of facilities and infrastructure have a significant relationship with the implementation of the 10 LMKM at the public health centers.

Table 5.
Dominant Factors Influencing Exclusive Breastfeeding

Variable	B	p-value	OR
Maternal Knowledge	0,580	0,023	1,786
Maternal Attitudes	0,924	0,000	2,518
Family Support	1,008	0,000	2,741
Health Worker Support	1,511	0,000	4,533

Based on the results of the multivariate analysis using logistic regression, it is known that several variables have an influence on the success of exclusive breastfeeding. The variables included in the multivariate analysis comprised maternal knowledge, maternal attitudes, family support, and health worker support. The analysis results show that health worker support is the most dominant factor influencing the success of exclusive breastfeeding. Respondents who did not receive support from health workers had a higher risk of not practicing exclusive breastfeeding compared to respondents who received health worker support, with an Odds Ratio (OR) of 4.53 and a $p\text{-value} < 0.05$.

Table 6.
Dominant Factors in the Implementation of the 10 LMKM

Variable	B	p-value	OR
Healthcare Workers' Knowledge	0,990	0,003	2,691
Healthcare workers' attitudes	0,660	0,048	1,934
Facilities and infrastructure	1,221	0,000	3,392

Based on the results of the multivariate analysis using logistic regression in Table 6, it is known that there are several factors influencing the implementation of the Ten Steps to Successful Breastfeeding (10 LMKM) in health care facilities. The variables analyzed in this model include health worker knowledge, health worker attitudes, and facilities and infrastructure. The results of the analysis indicate that health worker knowledge has a significant effect on the implementation of the 10 LMKM, with a $p\text{-value} = 0.003$ and an $OR = 2.691$. This indicates that health workers with good knowledge are approximately 2.69 times more likely to achieve the implementation of the 10 LMKM compared to health workers with poor knowledge.

DISCUSSION

The results of the study indicate that the implementation of the Ten Steps to Successful Breastfeeding (10 LMKM) plays an important role in increasing the success of exclusive breastfeeding. The implementation of this program reflects the support of the health care system in creating a conducive environment for breastfeeding practices. Recent evidence shows that the implementation of the Baby-Friendly Hospital Initiative (BFHI), which forms the basis of the 10 LMKM, significantly improves the early initiation of breastfeeding and the continuation of exclusive breastfeeding (World Health Organization & UNICEF, 2018; World Health Organization, 2022). The success of exclusive breastfeeding is influenced by individual factors, social

environment support, and the quality of integrated health care services (Rollins et al., 2023). Maternal knowledge is one of the key factors influencing the success of exclusive breastfeeding. Good knowledge enables mothers to understand the benefits of breast milk, proper breastfeeding techniques, and how to overcome various obstacles during breastfeeding. Recent research shows that mothers with a higher level of knowledge are more likely to practice exclusive breastfeeding (Titaley et al., 2021; World Health Organization, 2021). This is in line with other studies that found a significant relationship between maternal knowledge and exclusive breastfeeding practices in various developing country contexts (Agho et al., 2021).

In addition to individual factors, family support also has a significant influence on the success of exclusive breastfeeding. Emotional, informational, and practical support from the family—especially the partner—can increase maternal confidence and sustain breastfeeding practices for a longer period. Recent studies indicate that mothers who receive family support have a higher probability of successfully practicing exclusive breastfeeding (Shakya et al., 2020; Rollins et al., 2023). The role of health workers is also crucial in the success of the exclusive breastfeeding program. Education, counseling, and mentoring provided by health workers have been proven to increase maternal knowledge, build breastfeeding skills, and help overcome problems that arise during the breastfeeding process. Interventions based on breastfeeding counseling show significant effectiveness in increasing exclusive breastfeeding coverage (McFadden et al., 2021; World Health Organization, 2022). Furthermore, the availability of facilities and infrastructure in health care facilities also affects the implementation of the 10 LMKM program. Adequate facilities, such as lactation rooms, rooming-in policies, and institutional support, can create an environment that supports mothers in breastfeeding. Recent studies confirm that the readiness of health facilities is an important factor in the successful implementation of BFHI and the improvement of exclusive breastfeeding practices (Pérez-Escamilla et al., 2022).

CONCLUSION

The implementation of the Ten Steps to Successful Breastfeeding has a significant effect on the success of exclusive breastfeeding in Tangerang Regency. Factors influencing the success of exclusive breastfeeding include maternal knowledge, maternal attitudes, family support, and health worker support. For health workers, the influential factors are knowledge, attitudes, and the availability of facilities and infrastructure.

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