

Knowledge and Breastfeeding Experience are Associated with High Levels of Exclusive Breastfeeding Self-Efficacy in Pregnant Women from Dobo, Maluku

Rona Gabriella Amahoru¹⁾, Christiana Rialine Titaley^{2✉)}, Elpira Asmin³⁾, Amelia Rosayanti Susanto⁴⁾

¹⁻⁴Faculty of Medicine, Pattimura University, Ambon, Indonesia 97233

✉Email: christiana_rialine@yahoo.com

ABSTRACT

Background: The rate of exclusive breastfeeding in Indonesia, including Maluku Province, was still low. One of the factors associated with exclusive breastfeeding is maternal self-efficacy. This study aimed to determine factors associated with high levels of exclusive breastfeeding self-efficacy amongst pregnant women living in the catchment area of Dobo and Siwalima Health Centers in Dobo, Aru Islands District, Maluku Province. **Methods:** This study was conducted in October 2021 using a cross-sectional research design. Using total population sampling, 146 pregnant women living in Dobo and Siwalima Health Center's catchment area were selected and interviewed. We examined the role of different factors: mothers' sociodemographic characteristics, number of children, breastfeeding knowledge, social support, antenatal care use, and mothers' history of breastfeeding. Logistic regression analysis was performed to determine factors associated with high levels of exclusive breastfeeding self-efficacy in pregnant women. **Results:** We found that 61.6% of pregnant women had high levels of exclusive breastfeeding self-efficacy. The odds of high levels of exclusive breastfeeding self-efficacy significantly increased in pregnant women with high levels of breastfeeding knowledge (aOR=4.73; 95%CI: 1.44-15.52, p=0.010). The odds also increased in mothers who had ever exclusively breastfed their previous child (aOR = 5.10; 95% CI: 2.02-12.86, p=0.001) or had any experience with breastfeeding (aOR=0.48; 95%CI: 1.88-12, p=0.001). **Conclusions:** The level of knowledge about exclusive breastfeeding and previous breastfeeding experience was associated with the level of exclusive breastfeeding self-efficacy amongst pregnant women. Health promotion efforts, including health education and provision of support from health workers and family members for pregnant women who did not have any breastfeeding experience, were beneficial to improving exclusive breastfeeding self-efficacy.

Keywords: Exclusive-breastfeeding, Public Health Center, Self-efficacy

INTRODUCTION

According to the World Health Organization (WHO), exclusive breastfeeding is the condition in which an infant receives only breast milk for the first six months without other solids or liquids, except for drops or syrups consisting of vitamins, minerals, and supplements, or medicines (WHO, 2018). Breast milk is easy to digest, supports infants' growth and development, including their cognitive function, and contains various immune cells beneficial to protect infants from various infectious diseases (Widiarto T, 2018). Breastfeeding benefits mothers as it plays an important role, including in the process of restoring reproductive organs,

extending inter-pregnancy interval, reducing the risk of breast cancer, and increasing the bond between mothers and their infants (Muflidah, 2017; Pusat Data dan Informasi Kementerian Kesehatan RI, 2018).

Although the benefits of exclusive breastfeeding were widely reported, its prevalence was still low worldwide, including in Indonesia (WHO, 2018). According to data from the WHO, only 44% of infants globally were exclusively breastfed from 2015-2020. Based on the 2018 Basic Health Research (RISKESDAS) report, the prevalence of exclusive breastfeeding in Indonesia was 37.3% (Kementerian Kesehatan Republik

Indonesia, 2019). In Maluku Province, the prevalence of exclusive breastfeeding for infants aged 0-6 months in 2019 was 43.3% and reduced to only 37.2% in 2020 (Dinas Kesehatan Provinsi Maluku, 2020). The prevalence was also low in the Aru Islands District of Maluku Province (Dinas Kesehatan Provinsi Maluku, 2020). In 2020, the prevalence of exclusive breastfeeding in the Aru Islands District ranged from 100% at the Dobo Health Center to only 32% at the Siwalima Health Center (Dinas Kesehatan Kabupaten Kepulauan Aru, 2020).

Multiple factors were reported that influenced exclusive breastfeeding practice in the first six months of infants' life. They included maternal knowledge, occupation, education level, social support, and self-efficacy (Li *et al.*, 2021; Tsegaw, Dawed and Amsalu, 2021). Self-efficacy is a person's belief in his ability to perform a specific action to achieve the desired or expected results (Bandura, 1977). Thereby, when a mother had a high level of exclusive breastfeeding self-efficacy, she would have a greater belief in her ability to exclusively breastfeed her infant in the future. Self-efficacy is related to different factors, including maternal age and social support (Ngo T H, 2019; Safitri *et al.*, 2019). Previous research conducted by Titaley CR *et al.* reported that maternal education level, occupation, and level of knowledge about breastfeeding were significantly related to mothers' breastfeeding self-efficacy (Titaley *et al.*, 2021).

In 2021, a study was conducted in Dobo, Aru Islands District, Maluku to examine breastfeeding self-efficacy amongst pregnant women. Using data from this study, this analysis examined factors associated with high levels of exclusive breastfeeding self-efficacy amongst pregnant women living in the catchment areas of Siwalima and Dobo Health Centers. This result of the study could be used by program managers to improve maternal exclusive breastfeeding self-efficacy as part of the efforts to promote the prevalence of exclusive breastfeeding in the Aru Islands District, Maluku.

METHODS

Design and sampling method

This was an analytic study with a cross-sectional design. We interviewed

pregnant women of all gestational ages living in the catchment area of Siwalima and Dobo Health Centers in Dobo, Aru Islands District, Maluku Province.

A total sampling method was used in this research. All pregnant women registered in Siwalima and Dobo Health Center were asked to participate in this study. A total of 151 pregnant women were listed. The total number of respondents interviewed was 146 pregnant women. Five respondents were not included in the survey due to their time constraints.

Respondents were required to fill out the questionnaires, accompanied by the researcher. The questionnaires were filled out either at the integrated health posts or at the respondent's house. Before filling out the questionnaire, the researcher explained the purpose of the study and requested the respondents to fill out the informed consent form. After filling out the questionnaire, the researcher ensured its completeness of the questionnaire.

Research instrument

We used a structured questionnaire covering several aspects, including sociodemographic characteristics, the number of children pregnant women previously had, maternal knowledge of breastfeeding, social support, and breastfeeding self-efficacy. Questions related to sociodemographic characteristics, number of previous children, and maternal breastfeeding experience were adapted from a questionnaire used in studies in Semarang and Jakarta in 2020 and 2016 (Maelissa, 2017; Pusparoni, 2021). Questions about maternal social support were adapted from a questionnaire used in the Sreseh Health Center area, Surabaya, in 2018 (Agustin, 2018). The translated Breastfeeding Self-Efficacy Scale-Short Form (BSES-SF) developed by Denis in 2003 was also used in this survey (Dennis, 2003; Agustin, 2018; Sari *et al.*, 2019).

Dependent and independent variables

The dependent variable was maternal exclusive breastfeeding self-efficacy. The self-efficacy questionnaire has 14 questions with a total score ranging from 14 to 70. Each question has the answer of five options.: 'strongly disagree', 'disagree', 'neutral', 'agree', and 'strongly agree' (Agustin, 2018). All 'strongly disagree' answers were given a

score of one, 'disagree' answers were given a score of two, 'neutral' answers were given a score of three, 'agree' answers were given a score of four, and 'strongly agree' answers were given a score of five. All these scores were then summed for each respondent. The median distribution from the total self-efficacy score from all respondents was used as a cut-off point to determine respondents with high and low self-efficacy scores. If the total score was equal to or more than the median distribution, the respondent was classified into the high self-efficacy group. If the total score was less than the median, it was classified into the low self-efficacy group (Titaley *et al.*, 2021).

The independent variables in this study were grouped into sociodemographic, internal, and external factors. Socio-demographic factors consisted of five variables: (1) Age (<20 years/20-35 years/>35 years); (2) Education level (not schooling-primary school/junior high school /senior high school/university); (3) Occupation (housewife/working outside the home); (4) Gestational age (trimester I/II/III); and (5) Household income (<IDR 2,604,961 which is the Regional Minimum Wage (*Upah Minimum Regional*, UMR)/=UMR/>UMR). Internal factors consisted of three variables: (1) Number of children (not having any child/1 child/>=2 children), (2) Maternal level of knowledge about exclusive breastfeeding (low/high), and (3) Breastfeeding experience (never/ever had any experience) (Maelissa, 2017; Pusparoni, 2021).

External factors consisted of two variables: (1) use of antenatal care services (never/ever), and (2) social support (low/high). The social support variable consisted of 10 questions with the option: 'always', 'often', 'sometimes', and 'never' for each answer. If respondents answered 'always' score four was given, answered 'often' score three was given, answered 'sometimes' score two was given and answered 'never' score one was given. All these scores were then summed

for each respondent and categorized into: (1) 'high' if a total score was >30, (2) 'low' if a total score was ≤30 (Agustin, 2018).

Data analysis

Initially, the frequency distribution of each variable used in this study was presented descriptively. In the next stage, logistic regression methods (univariable and multivariable) were used to identify factors associated with high levels of exclusive breastfeeding self-efficacy in pregnant women. Univariable analysis was carried out to examine the relationship between a variable and exclusive breastfeeding self-efficacy without controlling for other variables. Multivariable analysis was then performed using the backward elimination method to determine factors that were significantly associated with high levels of exclusive breastfeeding self-efficacy in pregnant women (using a significance value of 0.05), after controlling for other covariates. The living area, age, and level of education were selected a priori to be retained in the model despite their significance level. All data analyses were carried out using the SPSS 24 software.

The ethics committee of the Faculty of Medicine, University of Pattimura, Ambon, approved the implementation of the research (number 053/FK-KOM.ETIK/VIII/2021). After obtaining an explanation from the researcher, respondents who were willing to be interviewed were asked to sign an informed consent form to state their willingness to participate

RESULTS AND DISCUSSION

This analysis used information from 146 respondents, i.e., 73 from the catchment area of Siwalima and 73 from the catchment area of Dobo Health Centers. In general, 61.6% of pregnant women had high levels of exclusive breastfeeding self-efficacy related. The distribution of respondents' answers for each component of the self-efficacy question is presented in Figure 1.

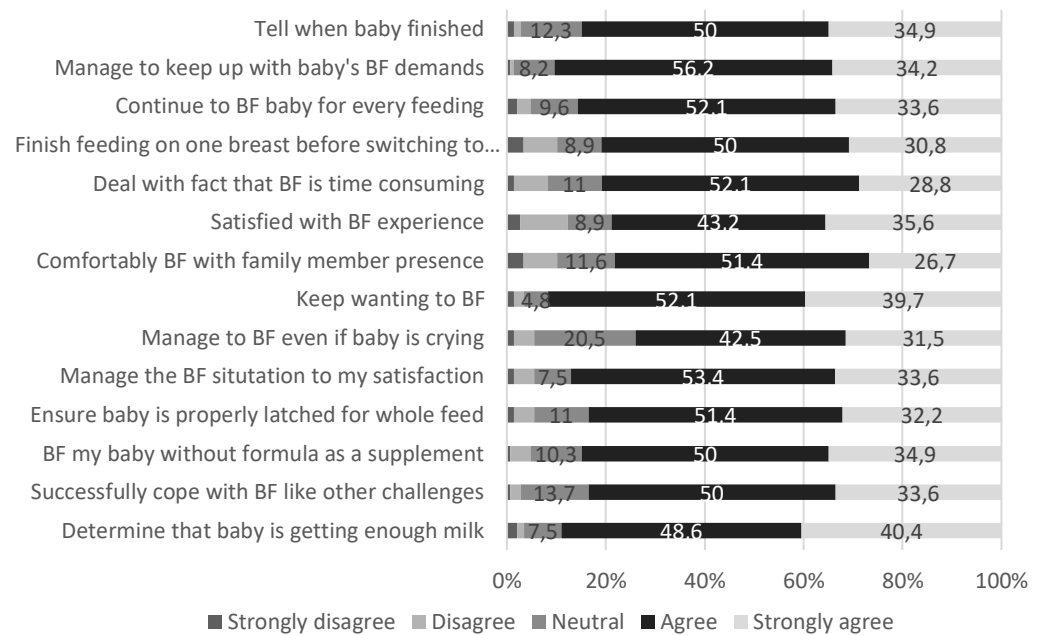


Figure 1: Distribution of respondents' answers for each question of the Breastfeeding self-efficacy scale short form (BSES-SF) in pregnant women living in the catchment area of Dobo and Siwalima Health Centers in Dobo, Aru Islands District, Maluku Province, 2021

Table 1 shows the frequency distribution of all respondents included in this analysis (n=146). Most of the respondents were aged 20-35 years (80.8%) and completed a minimum of high school level of education (47.3%). A total of 68.5% of respondents worked as housewives. The percentage of respondents with high levels of knowledge about exclusive breastfeeding was higher (86.3%) than those with a low level of knowledge. More than 60% of respondents had ever breastfed (68.5%), or exclusively breastfed their children (63.7%). Most respondents used antenatal care (ANC) services (92.5%). The distribution of each variable based on the level of self-efficacy is presented in Table 1. The percentage of pregnant women with high levels of exclusive breastfeeding level of self-efficacy was found in women who had high levels of knowledge and ever breastfed their children.

Table 2 presents the logistic regression analysis results performed in this analysis to determine factors associated with high levels of exclusive breastfeeding self-efficacy in pregnant women. A significant association was found between

mothers' level of knowledge about breastfeeding and exclusive breastfeeding self-efficacy, even after adjusting for respondents' location of residence, age, and education. The odds of high levels of exclusive breastfeeding self-efficacy were higher in mothers with high levels of knowledge about breastfeeding than those with low-level knowledge (aOR=4.73; 95%CI: 1.44-15.52, $p=0.010$). Increased odds were also found in the group of pregnant women who had ever exclusively breastfed their children before (aOR=5.10; 95% CI: 2.02-12.86, $p=0.001$). When mothers' experience of exclusive breastfeeding was replaced with any type of breastfeeding, significantly higher odds were still found in mothers who had previously breastfed compared to those who had never breastfed before (aOR=4.79; 95%CI: 1.88-12.18, $p=0.001$).

This study demonstrates the vital role of knowledge about exclusive breastfeeding during pregnancy on mothers' breastfeeding self-efficacy. This finding was supported by a previous study by Titaley, et al., which showed that mothers with a low level of knowledge had low self-efficacy, while mothers with high

levels of knowledge had high self-efficacy (Titaley *et al.*, 2021). According to Bandura's 1997 theory, one of the factors that formed a person's self-efficacy was the cognitive or knowledge component. The mindset possessed would influence someone's performance (Bandura, 1977). Mothers who had high self-efficacy could have high expectations of the results obtained. In pregnant women, self-efficacy becomes one of the essential drivers for mothers to exclusively breastfeed their children.

Our finding indicated the importance of improving mothers' knowledge and awareness about the importance of breastfeeding. Various health promotion strategies could be applied, including individual and group counseling. Individual counseling refers to individual meetings between the counselor and counselee, through which the counselor could provide assistance related to the counselee's personal development and the counselee could anticipate the problems that lie ahead (Florida Boa and Agustine, 2022). The importance of breastfeeding counseling was also emphasized by other studies reporting that lactation counseling had an effect on mothers' ability to breastfeed their children after cesarean section (Vidayanti and Wahyuningsih, 2017). Mothers who received lactation counseling had a 3.85 times better chance of breastfeeding their babies compared to mothers who did not receive any lactation counseling. Furthermore, a study on a self-efficacy-based training program amongst postpartum women in the first six months after delivery reported that mothers in the intervention group who received education intervention had higher levels of self-efficacy and longer duration of breastfeeding compared to mothers in the control group (Man *et al.*, 2016). This research also showed that 31.4% of mothers in the intervention group successfully breastfed their babies for six months after delivery compared to mothers in the control group 16.7%

Health promotion about the importance of breastfeeding could use different media to reach that will help the audience improve their understanding of the messages. A study reported an increased knowledge amongst respondents after education interventions were delivered using leaflets and video

(Afriyanti and Salafas, 2019). The results further showed that video was more effective in increasing respondents' knowledge. The use of video as a media of education could be applied in our study sites considering the high percentage of pregnant women in this age group, i.e., 20-35 years, who could access videos easily to retrieve any health-related information (Afriyanti and Salafas, 2019).

Furthermore, this study showed that mothers' self-efficacy was also related to their previous breastfeeding experience. A similar finding was reported by Ariyanti L, in 2021 (Ariyanti L, 2021). Mothers with experience of breastfeeding had a higher self-efficacy level than those who did not have any breastfeeding experience. Mothers who did not have any breastfeeding experience or ever failed to exclusively breastfeed their child due to difficulties encountered might be less motivated to exclusively breastfeed again (Man *et al.*, 2016). On the other hand, the success of the previous breastfeeding experience might become a strong desire to give their child exclusive breastfeeding again (Ariyanti L, 2021). This finding also reaffirmed the importance of family support and health professional assistance for pregnant women, especially those in their first pregnancy, who never had or failed to exclusively breastfeed their children before. Meeting opportunities during antenatal visits should be used optimally by health workers to provide education and assistance to pregnant mothers as early as possible. Several studies showed that educational efforts were more effective when conducted early to improve mothers' motivation to give exclusive breastfeeding to their babies (Vidayanti and Wahyuningsih, 2017). With assistance and education from lactation counselors, health workers, or trained cadres, solutions and challenges could be addressed early (Man *et al.*, 2016; Afriyanti and Salafas, 2019; Florida Boa and Agustine, 2022). Family support also plays a crucial role (Mufdlilah, Dwi Ernawati, 2022). Research conducted by Septiani Hanulan *et al.* in 2017 reported the significance of family support and the mother's decision to give exclusive breastfeeding. Therefore, the involvement of other family members in health promotion efforts since the pregnancy period will be essential to ensure women

receive adequate support and increase their exclusive breastfeeding self-efficacy.

Strengths and limitations

Research has not been thoroughly studied on breastfeeding self-efficacy amongst pregnant women in Dobo, Aru Islands Districts, Maluku Province. This research was also conducted in two health centers with a large catchment area and could represent the condition of Dobo. Therefore, the results of this study could be used by program managers to design evidence-based interventions to promote exclusive breastfeeding rates in Dobo and its surrounding areas. The main limitation of this study was the use of a cross-sectional design that could not establish any causal relationships between the variables examined.

CONCLUSION

In summary, our study confirms a significant association between knowledge of breastfeeding and previous breastfeeding experience with a high level of exclusive breastfeeding self-efficacy amongst pregnant women residing in the catchment area of Siwalima and Dobo Health Center in Dobo, Aru Islands District. Health promotion activities to improve pregnant women's knowledge and awareness about exclusive breastfeeding are essential. Additionally, support and assistance from breastfeeding counselors, health workers, and other family members will benefit pregnant women to improve their breastfeeding self-efficacy, particularly those who did not have any breastfeeding experience.

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