



Is Maternal Breastfeeding Motivation and Exclusive Breastfeeding Influenced by early Marriage age?

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Abstract

Introduction: Exclusive breastfeeding is beneficial for mother and child health. However, exclusive breastfeeding rate is low among young mothers. Thus, our study aimed to examine the relationship between maternal breastfeeding motivation and exclusive breastfeeding and determine whether the early marriage age influences both variables in Gunung Kidul District, Yogyakarta Special Region, Indonesia.

Methods: A cross-sectional design was conducted among young adolescent mothers. A total of 144 married women who had young children aged six to 12 months were selected using simple random sampling. Exclusive breastfeeding was the dependent variable, while maternal breastfeeding motivation was the independent variable. Descriptive statistics, chi-square test, multiple logistic regression, and mantel haenzel tests were performed to analyse the relationship between variables using STATA 14.2.

Results: Maternal age at marriage > 20 years (OR = 2.98; 95%CI: 1.15-7.74) and good maternal breastfeeding motivation (OR = 22.02; 95%CI: 7.55-64.2) were associated with exclusive breastfeeding practice. In the stratification analysis, a larger association was found between maternal breastfeeding motivation and exclusive breastfeeding among younger mothers (OR=3.96; 95%CI: 2.25-6.97) compared to older mothers (OR = 1.79; 95%CI: 1.29-2.48).

Conclusions: Maternal breastfeeding motivation positively influences exclusive breastfeeding practice. Notably, young mothers are more likely to be motivated to breastfeed their children exclusively than older mothers. The results suggest a need to improve maternal breastfeeding motivation through quality prenatal and postnatal care services that involve other family members.

Introduction

Exclusive breastfeeding for the first six months of life, with the introduction of complementary food and continued breastfeeding thereafter, has been recommended since 2001 by the World Health Organization (WHO).¹

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Also, breastfeeding is linked with Sustainable Development Goals by improving nutrition, health, economics, education, equity, and environmental aspects.² Non-exclusive breastfeeding is responsible for high mortality and disease burden, especially among children under the age of five.³ In addition, breastfeeding promotion has the potential to decrease the disease burden of mothers.⁴ It is estimated that scaling up breastfeeding could save up to 823,000 child deaths and 20,000 deaths due to breast cancer annually.⁵ Globally, the improvement of exclusive breastfeeding is still very modest in the past few decades.⁶ In low and middle income countries, exclusive breastfeeding coverage is only 37% among children less than six months of age.⁵ Based on the nationally representative survey in Indonesia, the proportion of exclusive breastfeeding decreased slightly from 38.0% in 2013 to 37.3% in 2018.⁷ Further analysis showed that exclusive breastfeeding was even lower among employed mothers, mothers who lived in the Eastern part of Indonesia, and those in urban areas.⁸

Maternal breastfeeding behaviour is complex and is affected by socio-cultural and physiological factors.⁹ A systematic review in Brazil showed that exclusive breastfeeding was associated with living residence, maternal age, maternal education, maternal employment, child's age, the use of a pacifier, and financing primary health care.¹⁰ Similarly, a review conducted in the Middle-East suggested that exclusive breastfeeding was linked to delivery factors, maternal employment, maternal age, and maternal education.¹¹

Few earlier studies examined the relationship between mothers' motivation and exclusive breastfeeding practices in Indonesia.^{12,13} In this study, we aimed to analyse the relationship between maternal breastfeeding motivation and exclusive breastfeeding in Gunung Kidul District, Yogyakarta, Indonesia. Gunung Kidul District was selected since it is a district with lower exclusive breastfeeding coverage and a high prevalence of young maternal age.¹⁴ The district consists of coastal, noncoastal, slope, and valley areas. The condition could be one of the reasons, in addition to the inequality in distribution of health professionals and limited health budget, that may lead to poor health care service in the district.¹⁵ Gunung Kidul, as in other districts / municipalities in Yogyakarta, has strong cultural factors that may contribute to the population feeding practices.¹⁶

Methods

A cross sectional observational design was used for this study. The population included all married women in Tepus Subdistrict, Gunung Kidul District, Yogyakarta Special Region, Indonesia. From the list of mothers registered at the Tepus II PHC, 72 married women were selected using a simple random sampling with a lottery method. We then added another 72 women from the list by matching their age at marriage with a ratio of 1:1. Thus, for every woman who married at an age < 20 years, one woman whose marriage age was ≥ 20 years, was added resulting in a total of 144 participants. The inclusion criteria were mothers of children aged six to 12 months and those who were agreed to participate in this study, evidenced by signing an informed consent form. If mothers had two children under-fives, then we only took data from the youngest child.

We collected data on women's characteristics, history of exclusive breastfeeding, and breastfeeding motivation by a home-visit interview for all women. We also derived data on marriage information (e.g., identity, marriage age) from the Tepus Office of Religion Affairs Report in 2016. Data on mothers who had young children aged six to 12 months was obtained from Tepus II PHC. We then created a list of subjects based on data from the Tepus Office of Religious Affairs and Tepus II PHC and randomised it to select participants. All participants were asked for their willingness to join the study by signing an informed consent form.

The dependent variable of this study was a history of exclusive breastfeeding as recommended by the WHO.¹ The independent variable was the maternal motivation for breastfeeding. Maternal motivation for breastfeeding was categorised into favourable or unfavourable factoring in the maternal decision process related to breastfeeding. It covered intrinsic motivation related to maternal and child health and extrinsic motivation covering self-control, support, and social aspects.¹⁷ We categorised the motivation variable into two categories: good (50 - 100%) and poor (< 50%). Other variables that were analysed in this study included child's sex, child's birth rank, parity, mother's age at marriage, mother's level of education, mother's employment status, spouse's age, and spouse's educational level. We used a structured questionnaire on maternal characteristics, breastfeeding practices, and a motivation checklist. This checklist has been translated to Bahasa Indonesia and validated in a previous study.¹⁸

Characteristics of mothers, children, their household, and the distribution of main variables were described with descriptive statistics. A chi-square test was used for bivariate analysis. Variables that showed an association with the history of exclusive breastfeeding with a p-value of < 0.25 were entered into multiple logistic regression. In the multivariate analysis, the p-value < 0.05 was considered to be significant and the confidence interval for odds ratios was set at 95%. To examine confounding factors and the effect of the modification, we used the mantel haenzel test for stratification analysis. All of the analyses were performed using STATA 14.2 (Stata Corporation, College Station, TX).

Results

Almost half of women were married at a young age, less than 20 years, whereas most spouses married ≥ 20 years (90.3%). Our study participants had children who were primarily male (53.47%) and the first child (77.78%), with an average age of 8.7 months. Most of our study participants and their spouses completed junior high school as their highest educational attainment, 57.6% and 47.9%, respectively. Most women were unemployed (81.25%). Sixty-one per cent of the sample reported exclusive breastfeeding at six months. 45.1% of mothers' motivation for breastfeeding was scored as good. Table 1 shows the characteristics and the distribution of the main variables in this study.

Table 1. Characteristics of children and parents and the distribution of main variables (n = 144 households)

Characteristics	% / mean \pm SD
Child characteristics	
Child's age (Months)	8.7 \pm 2.1
Child's sex	
Male	53.5
Female	46.5
Birth rank	
1 st	77.8
2 nd	22.2
Parity	
1	81.9
≥ 2	18.1
Parental characteristics	
Mother's age at marriage	
< 20 years	48.6
≥ 20 years	51.4
Mother's education	
Not completed primary school	1.4
Completed elementary school	18.1
Completed junior high school	57.6
Completed senior high school	20.1
Completed tertiary education	2.8
Maternal working status	
Not working	81.3
Working	18.7
Spouse's age at marriage	
< 20 years	9.7
≥ 20 years	90.3
Spouse's education	
Not completed primary school	3.5
Completed elementary school	28.5
Completed junior high school	47.9
Completed senior high school	18.0
Completed tertiary education	2.1
Main variables	
Exclusive breastfeeding	
No	38.9
Yes	61.1
Maternal breastfeeding motivation	
Poor	54.9
Good	45.1

Being a later-born child (OR = 2.78; 95%CI: 1.13-6.79), parity more than one (OR = 3.20; 95%CI: 1.16-8.73), older maternal age at marriage (OR = 3.69; 95% CI: 1.83 - 7.47), and good maternal motivation for breastfeeding (OR = 21.86; 95% CI: 8.06 - 58.79) were significantly associated with exclusive breastfeeding at six months. Variables such as the child's sex, mother's educational level, mother's employment status, and spouse's age at marriage were not related to exclusive breastfeeding.

In the multivariate results, factors associated with breastfeeding exclusively included maternal age at marriage ≥ 20 years (OR = 2.98; 95% CI: 1.15 - 7.74). Having good motivation for breastfeeding was associated with a 22 times greater likelihood for exclusive breastfeeding for at least six months.

Table 3. Stratification analysis between maternal breastfeeding motivation and exclusive breastfeeding by maternal age at marriage

Strata	Maternal breastfeeding motivation	OR (95%CI)
Mother's age at marriage		
< 20 years	Poor (ref)	
	Good	3.96* (2.25 - 6.97)
≥ 20 years	Poor (ref)	
	Good	1.79*(1.29 - 2.48)
COR		2.60* (1.91 - 3.54)
M-H OR		2.38* (1.79 - 3.16)

*Level of significance at < 0.05

COR = crude odds ratio; M-H OR = mantel-haenzel odds ratio

Table 2. Bivariate and multivariate analysis of exclusive breastfeeding determinants

Characteristics	Exclusive breastfeeding			
	COR (95% CI)	p	AOR (95% CI)	p
Child's sex				
Male (ref)				
Female	0.89 (0.46 - 1.75)	0.75		
Birth rank				
1 st (ref)				
2 nd	2.78 (1.13 - 6.79)	*0.03	1.87 (0.21 - 16.31)	0.57
Parity				
1 (ref)				
≥ 2	3.20 (1.16 - 8.73)	*0.02	1.18 (0.09 - 14.14)	0.89
Mother's age at marriage				
< 20 years (ref)				
≥ 20 years	3.69 (1.83 - 7.47)	*0.00	2.98 (1.15 - 7.74)	*0.02
Mother's education				
Primary school or below (ref)				
Secondary school or above	0.85 (0.36 - 1.97)	0.70		
Maternal breastfeeding motivation				
Poor (ref)				
Good	21.86 (8.06 - 58.79)	*0.00	22.02 (7.55 - 64.2)	*0.00
Maternal working status				
Not working (ref)				
Working	1.10 (0.47 - 2.57)	0.83		
Spouse's age at marriage				
< 20 years (ref)				
≥ 20 years	0.86 (0.28 - 2.60)	0.79		
Spouse's education				
Primary school or below (ref)				
Secondary school or above	1.97 (0.97 - 4.00)	*0.06	2.00 (0.78 - 5.14)	0.15

*Level of significance at < 0.05

COR = Crude Odds Ratio; AOR = Adjusted Odds Ratio

We analysed the relationship between maternal motivation and exclusive breastfeeding by maternal age at marriage (Table 3). The association between maternal motivation and exclusive breastfeeding was not confounded by maternal age at marriage because there was only a small difference between crude odds ratio (OR = 2.60; 95% CI: 1.91 - 3.54) and adjusted odds ratio (OR = 2.38; 95% CI: 1.79 - 3.16). There was a larger effect of maternal motivation on exclusive breastfeeding among younger mothers (OR = 3.96; 95% CI: 2.25 - 6.97) compared to older mothers (OR = 1.79; 95% CI: 1.29 - 2.48).

Discussion

Our study demonstrated that the proportion of infants who were breastfed exclusively for six months was higher than the national proportion in Indonesia.⁷ However, it remained below national and global targets for 80% and 90% coverage respectively.^{19,20} Thus, to design interventions aiming at improving the rate of exclusive breastfeeding, it is essential to identify its associated factors.

In this study, the mother's age at marriage and maternal motivation for breastfeeding were significantly associated with exclusive breastfeeding. Women who married at an age ≥ 20

years were more likely to breastfeed their infants exclusively. Our study is in line with a previous study reporting that mother's age at 20 years was linked with the higher exclusive breastfeeding proportion than mothers of younger age.²¹ Maternal experiences in infant management may increase as maternal age increases.²² Conversely, younger mothers may think about the change of their physical appearance (e.g., breast size) if they breastfeed their infant for a longer time and thus stop providing breastmilk.²³ In Yogyakarta, strong cultural factors such as giving sugar water or tajin water from boiled rice may also contribute to the early introduction of complementary food.¹⁶ Additionally, mother's decision making on breastfeeding could be explained by cultural and family factors.²⁴ Our finding indicates that young mothers are vulnerable to nonexclusive breastfeeding practices, especially in settings where culture and social norms are highly influential.

Mothers who had good motivation for breastfeeding were more likely to breastfeed their infants exclusively. When we stratified maternal motivation by maternal age at marriage, the result showed that mothers with good motivation tend to provide exclusive breastfeeding, especially among younger mothers. A previous study conducted among low-income women divided maternal motivation on breastfeeding into three categories: 1) Extrinsically motivated, if women hadn't succeeded breastfeeding previously but chose to breastfeed based on others' suggestions, 2) Intrinsically motivated, if women hadn't succeeded breastfeeding previously but chose to breastfeed based on their or their infant's health reasons, and 3) Successfully experienced, if women had successfully breastfed previously and had a family with breastfeeding history, then chose to breastfeed for their and their infant's health.²⁵ In our study, mothers who married at a younger age might have no breastfeeding experience success as they just had one child. Thus, intrinsic motivation arising from maternal self-decision making and extrinsic motivation influenced by family and social factors may play essential roles in the success of exclusive breastfeeding. A qualitative study among adolescent mothers demonstrated that the decision to breastfeed was made prenatally. Therefore, during prenatal and early postpartum health service, counselling strategy may benefit adolescents with low levels of motivation to breastfeed their infant.²⁶

On the contrary to the earlier study, we found that maternal education was not related to exclusive breastfeeding.²¹ Based on Susiloretni et al,²⁷ the only factor associated with a longer duration of exclusive breastfeeding was maternal breastfeeding knowledge in Central Java, Indonesia. Maternal knowledge on breastfeeding can have a significant impact on the success of exclusive breastfeeding.²⁸ On the other hand, high educational attainment does not always mirror the favourable knowledge about breastfeeding.⁸ In this case, it is the responsibility of health care providers to deliver messages on breastfeeding and early child feeding practices to mothers since preconception and their husbands / spouses and other family members. Besides, supports from families and the workplace may benefit the practice of breastfeeding.^{29,30}

To our knowledge, this is the first study to analyse the association between maternal motivation for breastfeeding and exclusive breastfeeding that considers maternal marriage age in Indonesia. Findings for this study can be generalised to other populations with a high prevalence of adolescent marriage, as in the Gunung Kidul District. However, the use of a cross-sectional design prevents us

from concluding any cause-effect relationship between maternal motivation for breastfeeding and exclusive breastfeeding. Further research with larger sample sizes and advanced study designs (e.g., cohort and community trial) may be needed to examine the association between both variables.

Conclusions

Maternal breastfeeding motivation positively influences exclusive breastfeeding practice. Notably, young mothers are more likely to be motivated to breastfeed their children exclusively than older mothers. The results suggest a need to improve maternal breastfeeding motivation through quality prenatal and postnatal care services, which involve mothers and family members. Such programs should engage mothers of all ages in the community.

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