

# Sosiodemographic Factors Associated with Exclusive Breastfeeding on Working Mothers in Hospital

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**Abstract:** Background: The rate of exclusive breastfeeding in developing countries remains low, especially among working mothers. Objective: This research aims to determine sociodemographic factors associated with exclusive breastfeeding among working mothers in Lamongan hospitals. Method: It employed a cross-sectional analytical study design with a sample of working mothers in Lamongan private hospitals who had babies aged 6 to 24 months and met the inclusion criteria of 120 individuals obtained through purposive sampling. The data were collected by a questionnaire with closed ended question and analyzed using univariate and bivariate (chi-square) methods. Results: Sociodemographic factors significantly associated with exclusive breastfeeding included education (p 0.011; OR 4.167; 95% CI: 1.176-14.765) and occupations (p 0.003; OR 3.763; 95% CI 1.513-9.357), while age, parity, and income were not significantly associated. Conclusion: Working mothers in hospitals with a diploma education have a 4.2 times higher chance of exclusive breastfeeding compared to those with a high school or equivalent education, and those working as healthcare professionals have a 3.7 times higher chance of providing exclusive breastfeeding compared to non-healthcare workers. Hospital health promotion units should intensify lactation promotion for pregnant and breastfeeding female employees, especially those at risk of not providing exclusive breastfeeding.

**Keywords:** Education, Occupation, Exclusive Breastfeeding, Working Mother, Hospital

## INTRODUCTION

Exclusive breastfeeding has been proven to enhance the health of both mothers and infants. The complex nutrient content meets the baby's nutritional needs and provides immunity to protect against various diseases. A meta-analysis indicated that exclusive breastfeeding offers protection against infections in children, malocclusion, enhanced intelligence, and a potential decrease in overweight and diabetes (Victora et al, 2020). Discontinuation of exclusive breastfeeding before six months increases the incidence of diarrhea, fever, and acute respiratory infections, and is also associated with an increased occurrence of wasting and underweight in children (Nigatu et al, 2019). This implies that exclusive breastfeeding for the first six months can reduce morbidity rates and the adverse effects of malnutrition in children, ultimately leading to a decrease in newborn mortality rates (Kemenkes RI, 2021).

The World Health Organization (WHO) recommends exclusive breastfeeding for six months, followed by continued breastfeeding up to 24 months of age. However, the rate of exclusive breastfeeding remains low in developing countries, particularly among working mothers (Gebrekidan et al., 2020). The global coverage of exclusive breastfeeding in 2020 was approximately 44% (Kemenkes RI, 2021; WHO, 2021), while in East Java it was 61%, a decrease from 68.2% in 2019 (Dinkes Propinsi Jawa Timur, 2021). Exclusive breastfeeding coverage in 2020 in Lamongan district exceeded the average coverage

in East Java, but the distribution varied across sub-districts, ranging from 40% to 95% (Dinkes Lamongan, 2020). The prevalence of exclusive breastfeeding among working mothers is lower (24.8%) compared to non-working mothers (82.9%) (Tadesse et al., 2019). Initial survey results from interviews with eight working mothers in hospitals in Lamongan district revealed that 3 individuals (37.5%) did not practice exclusive breastfeeding or only partially breastfed, combining breast milk with formula milk.

Working mothers face several challenges that contribute to the decline in breastfeeding rates due to various factors. A study in China identified four key job-related factors affecting breastfeeding practices: workplace environment, commute time, work intensity (tight work schedules), and job benefits (Chen et al., 2019). Mothers experiencing difficulties in any of these aspects may choose to reduce breastfeeding frequency or stop breastfeeding altogether. The University of Edinburgh, United Kingdom & Nwaodu (2021) (Ahmadi & Moosavi, 2013; Riaz & Condon, 2019; Sulaiman et al., 2018) stated that one of the key factors hindering exclusive breastfeeding among working mothers in developing countries is inadequate workplace breastfeeding support, such as insufficient breastfeeding breaks, lack of breastfeeding facilities, short maternity leave, and poor support from husbands and the community.

Additionally, exclusive breastfeeding practices are greatly influenced by maternal characteristics such as age, parity or previous breastfeeding experience, level of education and knowledge, and socioeconomic status. Interventions provided to mothers to enhance knowledge and awareness of exclusive breastfeeding are crucial for understanding which maternal characteristics may be associated with compliance with existing recommendations. Specifically, sociodemographic factors should be considered through targeted interventions focusing on mothers at risk of discontinuing breastfeeding before the recommended time (Lio et al., 2021).

Research on sociodemographic factors and exclusive breastfeeding among working mothers in hospitals is still limited, hence it is still relevant to develop research studies on demographic characteristics and breastfeeding practices among working mothers in hospitals. This study aims to determine the relationship between maternal sociodemographic characteristics and exclusive breastfeeding among working mothers in hospitals in the Lamongan district.

## METHOD

This study employed an analytical cross-sectional research design. The research was conducted in four non-governmental hospitals in the Lamongan district from August to September 2022.

The sample consisted of working mothers in non-governmental hospitals in Lamongan district with babies aged 6-24 months, totaling 122 individuals. Sample selection was conducted using purposive sampling. Initially, there were 122 respondents, but 2 respondents did not complete the questionnaire properly and were therefore excluded. The final sample size was 120 individuals.

Inclusion criteria included: Working mothers with babies aged 6-24 months, minimum work experience of 1 year, and willingness to participate in the study. Exclusion criteria included: Mothers with contraindications for breastfeeding as recommended by a doctor, mothers or babies with severe illnesses within the first 6 months after childbirth requiring

hospitalization, such as confirmed COVID-19 with severe symptoms, eclampsia, and decreased consciousness, babies with severe asphyxia, and babies with severe congenital abnormalities preventing breastfeeding. Mothers who lost their closest relatives (spouse, parents) due to death or divorce within a year were also excluded. Respondents who did not complete the questionnaire properly were also excluded. The independent variables included education, age, parity, commute time to work, type of occupation, and income.

The dependent variable was exclusive breastfeeding. The research utilized primary data sources with a questionnaire distributed offline. Data analysis was conducted using IBM SPSS for Windows version 22, including univariate and bivariate analysis (chi-square test) with a significance level of 95% ( $\alpha=0.05$ ).

## RESULTS

The study was conducted with 120 respondents from four non-governmental hospitals in the Lamongan district. The results of data collection from the respondents were analyzed as follows:

**Table 1.** Distribution of Exclusive Breastfeeding, Mother's Age, Parity, Education Level, Occupation Type, and Income among Working Mothers in Hospitals in Lamongan District Region

No	Variabel	N	%
1	<b>Exclusive Breastfeeding:</b>		
	Exclusive	60	50
	Not Exclusive	60	50
2	<b>Mother's Age:</b>		
	Young	0	0
	Adult	118	98,3
	Erderly	2	1,7
3	<b>Parity:</b>		
	Primiparous	66	55,0
	Multiparous	54	45,0
	Grand Multiparous	0	0
4	<b>Education:</b>		
	Secondry	14	11,7
	Diploma	64	53,3
	Bachelor	42	35,0
5	<b>Ocupation Type:</b>		
	Healthcare worker	90	75,0
	Non Healthcare worker	30	25,0
6	<b>Income:</b>		
	High	48	40,0
	Low	72	60,0

Univariate analysis results, as shown in Table 1, revealed that the distribution based on the characteristics of working mothers in hospitals with babies aged 6-24 months showed that almost all (98.3%) were adults, more than half were

primiparous (55%), and had a diploma education level (53.3%). The majority (75%) worked as healthcare professionals, and more than half (60%) had low-income or below the regional minimum wage (UMK).

**Table 2.** Relationship between Variables (Age, Parity, Education, Occupation Type, and Income) and Exclusive Breastfeeding among Working Mothers in Hospital in Lamongan District Region

No	Variabel	Exclusive Breastfeeding				OR	CI 95%	Significance
		Exclusive n	Exclusive %	Non Exclusive n	Non Exclusive %	Amount		
1	<b>Mother's Age:</b>							
	Adult	60	50,8	58	49,2	118	0,492	0,409-0,591
	Erderly	0	0	2	100	2		0,094
2	<b>Parity:</b>							
	Primiparous	28	42,4	38	57,6	66	1,974	0,951-4,096
	Multiparous	32	59,3	22	40,7	54		0,066
3	<b>Education:</b>							
	Secondary	4	28,6	10	71,4	14		
	Diploma	40	62,5	24	37,5	64	4,167	1,176-14,765
	Bachelor	16	38,1	26	61,9	42	1,538	0,413-5,737
4	<b>Jenis Pekerjaan</b>							
	Healthcare Worker	52	57,8	38	42,2	90	3,763	1,513-9,357
	Non Tenaga Kesehatan	8	26,7	22	73,3	30		0,003*
5	<b>Income:</b>							
	High	24	50	24	50	48	1,000	0,482-2,076
	Low	36	50	36	50	72		1,000

Regarding the results of bivariate analysis in Table 2, it was found that variables significantly associated with exclusive breastfeeding among working mothers in hospitals (p-value <0.05) were the education level and type of occupation of the mother, while the mother's age, parity, and income did not have a significant relationship (p-value >0.05).

## DISCUSSION

The statistical test results of this study yielded a p-value of 0.094 ( $p > 0.05$ ), indicating that statistically, the findings are not significant. However, descriptively, it was found that exclusive breastfeeding was more prevalent among working mothers in the reproductive age group (20-35 years old), with a percentage of 50.8%, while all working mothers above 35 years old did not exclusively breastfeed (100%). This indicates a tendency to provide exclusive breastfeeding among mothers aged 20-35 years old.

Several studies have explored the impact of maternal age on exclusive breastfeeding during the first 6 months of an infant's life. It has been reported that there is a statistically significant relationship between the two, finding that mothers in the middle age range are more likely to engage in exclusive breastfeeding. Mothers in the middle age range appear to have a higher likelihood of breastfeeding. A study in Egypt found that mothers in the 20 to 30 age group had a much higher chance of exclusively breastfeeding for the first 6 months of their baby's life, with an odds ratio of 2.9. Younger mothers (adolescents) and those in the 35 years or older age group often cease breastfeeding prematurely (Alzaheb, 2017).

The findings of this study are consistent with previous research (Karina et al., 2020) indicating that mothers aged 18 to 35 years breastfeed for the longest duration. During this age range, mothers typically can address challenges effectively and

fulfill their roles optimally because maturity levels, cognitive abilities, and exposure to exclusive breastfeeding information are higher, thus influencing the increase in exclusive breastfeeding rates. Conversely, older age has a negative impact on breastfeeding (Colombo et al., 2018). This can be attributed to mothers over 35 years old experiencing changes in several bodily systems, not only in the cardiovascular system but also in hormonal systems affecting breast milk production. Inadequate breast milk production is significantly associated with the failure of exclusive breastfeeding (Hashim, 2020).

Regarding the factor of education, the study's results indicate that from the cross-tabulation, the highest percentage of exclusive breastfeeding is found among mothers with a diploma education (62.5%), compared to those with secondary or high school equivalent education (28.6%). The bivariate test results show a significant relationship between maternal education level and exclusive breastfeeding ( $p < 0.05$ ).

Research related to exclusive breastfeeding during the first 6 months of an infant's life and maternal education provides an explanation that higher education is usually associated with more modern thinking in developing countries. Studies observing a positive relationship offer possible reasons that mothers with higher education are more likely to be aware of the health benefits of breastfeeding (Alzaheb, 2017). Formal education shapes values, especially in accepting new concepts. Mothers with higher levels of education are generally more open to change or health-maintenance practices, as well as being driven to seek experiences and information. Mothers who receive breastfeeding information are 73% more likely to engage in exclusive breastfeeding (AOR 1.73; 95% CI 1.17, 2.56) (Gebretsadik et al., 2022).

Research (Mekebo et al., 2022) indicates that maternal education level is significantly associated with breastfeeding practices. In developed countries, women with higher education are more likely to initiate breastfeeding and breastfeed for longer durations compared to their less educated counterparts (Dashti et al., 2014). Moderate education levels are three times and higher education levels are nearly five times more likely to engage in breastfeeding compared to low education levels (Lio et al., 2021). Mothers with higher education levels may be more informed about the benefits of exclusive breastfeeding through reading written messages from various sources and easily comprehending counseling sessions compared to mothers with lower or no education.

From the parity factor, this study found that exclusive breastfeeding was more prevalent among working mothers with multiparous status (59.3%) compared to primiparous mothers (42.3%), although the bivariate analysis showed no significant relationship ( $p\text{-value } 0.066 > 0.05$ ).

Theoretically, parity is believed to be associated with the direction of information seeking regarding maternal knowledge in providing exclusive breastfeeding, as well as one's own experiences or those of others in providing exclusive breastfeeding. Multiparous mothers are more likely to engage in exclusive breastfeeding compared to primiparous mothers, as well as have longer breastfeeding durations (Dashti et al., 2014; Hackman et al., 2015). A woman who has given birth more than once or multiparous, and a woman who has given birth more than five times or grand multiparous, has a 4.60 times higher chance of providing exclusive breastfeeding compared to primiparous mothers. Conversely, primiparous women experience increased formula milk feeding and mixed breastfeeding upon leaving the hospital, delayed lactogenesis, decreased likelihood of achieving desired breastfeeding goals, and shorter breastfeeding durations (Hackman et al., 2015).

The number of children or parity influences a mother's level of knowledge regarding breastfeeding. Additionally, parity is associated with a mother's breastfeeding experience, where experience serves as a source of knowledge, enabling one to acquire true knowledge by repeating the knowledge gained. Breastfeeding experience from previous births influences an individual to continue breastfeeding in subsequent births. Knowledge, understanding, and breastfeeding experience are among the main factors influencing the provision of exclusive breastfeeding among working mothers (Abekah-Nkrumah et al., 2020).

Based on the type of occupation in this study, exclusive breastfeeding was more prevalent among mothers working in healthcare professions (57.8%) compared to non-healthcare professions (26.7%). The bivariate analysis revealed a significant relationship between occupation type and exclusive breastfeeding among mothers working in hospitals ( $p$ -value  $0.003 < 0.05$ ; OR 3.76; 95% CI 1.513-9.357). Mothers working in healthcare professions have a 3.76 times higher chance of providing exclusive breastfeeding compared to mothers working in non-healthcare professions.

The findings of the study by Erlani et al. (2020) also discovered that exclusive breastfeeding was more prevalent among healthcare worker mothers in hospitals, accounting for 61.9%, compared to those not engaging in exclusive breastfeeding. Chale et al. (2016) similarly found that healthcare workers employed in hospitals possessed better breastfeeding knowledge compared to those working in pharmacies.

Healthcare workers responsible for providing services and education to patients and their families naturally possess better knowledge about breastfeeding compared to non-healthcare workers. With accurate knowledge about breastfeeding, supported by the availability of breast pumping facilities and workplace support, a working mother can still provide exclusive breastfeeding. This aligns with the findings of the study by Zielińska et al. (2017), which reported that exclusive breastfeeding was more prevalent among mothers with better breastfeeding knowledge scores. With good knowledge and understanding of exclusive breastfeeding, mothers will strive to allocate time during their work breaks to breastfeed or pump breast milk and store it for later feeding to their babies.

From the income factor, this study found that the percentage of exclusive breastfeeding among working mothers with high and low incomes was the same at 50%, with a  $p$ -value of 1.000 ( $p > 0.05$ ), indicating that there is no statistically significant relationship.

These findings align with the research by Nazari et al. (2021), which stated that there is no significant relationship between family economic status and exclusive breastfeeding. However, this contrasts with the study conducted by Jama et al. (2020), which explained that there is a significant relationship between household income and exclusive breastfeeding. Other research findings in Ethiopia have observed that mothers with lower income status remain positively associated with the practice of exclusive breastfeeding. Unemployed mothers also have a positive association with the practice of exclusive breastfeeding (Asare et al., 2018).

Based on the results of this study and previous research, it can be concluded that the income level of working mothers has different influences on the behavior of exclusive breastfeeding, depending on several factors, one of which may be the reasons underlying the mother's decision to work.

Women's involvement in the workforce may be driven by economic necessity, reflecting low household economic conditions, so working with the aim of increasing family income and welfare becomes crucial. However, some choose to work as a reflection of socioeconomic status in the middle to upper levels. In this context, work is not solely aimed at seeking additional funds for the family's economy but is also a form of self-actualization, seeking self-affiliation, and socialization. The element of prestige is particularly important for women with higher education who view work as proof or a form of self-actualization. Therefore, many married women feel that working outside the home (in the public sector) has higher value than in the domestic sector, even if the expected wages do not meet expectations.

## CONCLUSION

Maternal education level and type of occupation are variables significantly related to exclusive breastfeeding among working mothers in hospitals in the Lamongan district region. Based on the research findings and discussions above, it is recommended that the hospital's health promotion unit take a more active role in implementing breastfeeding promotion programs for female employees to encourage exclusive breastfeeding.

## Conflict of Interest

The authors declare that they have no conflict interest.

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