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Published

2019

Journal Title

Indian Journal of Public Health Research & Development

Version

Version of Record (VoR)

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An Analysis about the Influence between Individual Characteristics and Occupational Factors Toward Exclusive Breastfeeding (EBF) (Study at Industrial Center of Sidoarjo District)

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Abstract

Exclusive Breastfeeding (EBF) is giving breastfeeding only during the first six months without other supplementary drinks or foods. Every mother has the right to give breastfeeding, including the working mother. Working mother is still considered as the one of the factors that causing the high rate of EBF failure, whereas in industrialized countries 45-60% of workers are reproductive age women. The purpose of this study was to describe and analyze the individual characteristics and occupational factors of EBF by working mother.

This study was observational with cross sectional design. The respondents were 114 working mother. The independent variables in this study were age, education, work unit, and working hours. The dependent variable is EBF.

A total of 47.4% of respondents gave EBF. Most of the respondents were aged between 20-35 years old and gave EBF of 40 respondents (54.8%), and almost half of them aged > 35 years old of 14 respondents (34.1%). Most of the respondents worked in non-shift work and gave EBF of 19 respondents (73.1%). A simple logistic regression analysis found significant influence between age and EBF ($p = 0.036$) and there was a significant influence between working hours and EBF ($p = 0,004$).

We recommended for the company to make a schedule regulation about working mother who are still giving breastfeeding and not to work in shifts until they are ready to work in shift, so they can provide EBF for the infant.

Keywords: *Exclusive Breastfeeding, Working Mother, Working Factor, Work Shift*

Introduction

Maternal Mortality Rate (MMR) and Infant Mortality Rate (IMR) are indicators of developmental

success in health sector. MMR and IMR are still relatively high across the world, according to World Health Organization (WHO) data in 2013, recorded the world's IMR rate of 35 per 1000 live births. About 40% of infant death occur in the first month of life. The cause of the death during perinatal / neonatal period is generally related to maternal health during pregnancy, fetal health during pregnancy and maternal / infant delivery process that is asphyxia, hypothermia due to prematurity / BBLR¹². According to Health Department of Indonesia (2013), fifty-four percent of infant death

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is due to nutritional problems such as less calories and protein⁵.

Prevention attempt that can be done to reduce infant mortality due to the problem is to improve the nutrition of infant. The First 1000 Days of Life Movement is an accelerated movement of nutritional improvement adopted from the Scaling Up-Nutrition (SUN) Movement, which aims to reduce the nutritional problem in The First 1000 Days of Life from early pregnancy until 2 years⁸.

Related to the improvement of nutrition in 1000 days of life, several policies have been established, including: Increasing coverage and quality of pregnancy and delivery services; Socialize and monitor the implementation of Law No. 36/2009 about Health and Government Regulation No. 33/2012 about Exclusive Breastfeeding; Increase coverage and quality of nutrition and health services through the provision of supportive personnel, adequate provision of nutritional medicine and supplementation; Increase health and nutrition education activities through a clean and healthy life style culture; and by increasing the commitment of various stakeholders, especially across sectors, businesses and communities to jointly meet family-level food needs.

Exclusive breastfeeding can affect infant mortality rate (IMR) because breast milk can improve and maintain the immune system in infants so they are not susceptible to infectious diseases. According to Indonesia Health Demography Survey data in 2007 shows that infant mortality rate decreased from 39.5% in 2002 to 32.4%. This is because exclusive breastfeeding is getting better¹².

In Indonesia, the call for exclusive breastfeeding is contained in Government Regulation No. 33 of 2012 about Administration of Exclusive Breastfeeding; paragraph 1. That is, a mother is obliged to give exclusive breastfeeding and the environment around the mother is also obliged to morally support the mother to breastfeed. Every mother has the right to give breastfeeding, including the working mother. The International Labor Organization Convention stipulates that maternity leave for 14 weeks and the provision of breastfeeding support facilities in the workplace shall be held. Labor Law in Indonesia no. 1 Year 1951 provides maternity leave for 12 weeks and breastfeeding opportunities 2 x 30 minutes in working hours. However, working mothers are still

considered as one of the factor that causing high rates of breastfeeding failure, whereas in industrialized countries 45-60% of workers are reproductive age women¹⁰.

The barrier factors of breastfeeding success in working mothers are short time off work, lack of workplace support, short break time at work (not enough time to milking), lack of room for milking, lack of breastfeeding storage, fatigue factor, as well as cultural issues, feel ashamed when milking at work, and lack of mother knowledge about lactation management¹¹.

Sidoarjo District is known as the industrial center. Data from Industry and Trade Office of Sidoarjo District stated that in 2007 the number of industries in Sidoarjo District is 5,638 units with 487 big industrial units and 5151 small industrial units category. In 2013 at Sidoarjo District, infants who received exclusive breastfeeding were 47.95% or 11,534 of the 24,055 infants examined. The value is decreased when compared to 2012 coverage of infants who get exclusive breastfeeding of 50.78% or 11,600 of the 22,845 infants. Compared to the 2013 target of 75%, the achievement of exclusive breastfeeding in Sidoarjo District is still far below the target. Various possible factors that lead to low exclusive breastfeeding, among others, increasing number of working mother in order to help the household economy and the use of formula milk that become a trend in society⁶.

This study aims to describe and analyze the characteristic of individual and occupational factors on exclusive breastfeeding by worker mothers.

Material and Method

The design of this study was cross sectional with observational study type. The study was conducted at PT X, that engaged in plastic bag and jumbo bag industry. The data was collected for 1 month in October - November 2017. The respondents were 114 people with inclusion criteria who already had children during work and those who had breastfed. The independent variables of this study were individual characteristics (age and education), occupational factors (work units and work hours).

Data collection techniques was in the form of filling the general data questionnaire, job history, history of pregnancy, childbirth and breastfeeding. Analytical methods used include descriptive analysis and bivariate analysis.

Results

Age

Respondent characteristic by age was divided into two categories, namely those aged 20-35 years and > 35 years. The majority of respondents in this study were aged 20-35 years of 73 respondents (64%), and almost half were > 35 years old by 41 respondents (36%).

Education

Respondent characteristic by education was divided into elementary school, junior high school, senior high school and college school categories. The majority of respondents in this study were senior high school graduates of 66 respondents (57.9%), almost half of them were junior high school graduates (33.9%), some were university graduates 12 respondents (10.5%) and elementary school graduates were 3 respondents (2.6%).

Work Unit

In this study, the work unit was divided into two

categories namely respondents who work in the office and non-office (packing). In this study, most respondents work in non-office (packing) sections of 93 respondents (81.6%) and a small part who works in the office of 21 respondents (18.4%).

Work Hour Rules

In the company where the research was applied shift work system for workers in the production (non-office) i.e morning, afternoon and night shift. Most respondents worked with shift work system of 88 respondents (77.2%). While a small percentage of respondents work without shift work system of 26 respondents (22.8%).

Exclusive Breastfeeding

Nearly half of the respondents who studied exclusively breastfed their infants by 54 respondents (47.4%).

Test Results of the Influence Between Individual Characteristics and Occupational Factors on Exclusive Breastfeeding

Table 1. Test Result of the Influence

Independent Variable		Dependent Variable		
Variable	Category	Exclusive Breastfeeding		p-value
		Yes N (%)	No N (%)	
Age	20 – 35 Years Old	40 (54,8)	33 (48,2)	0,036
	> 35 Years Old	14 (34,1)	27 (65,9)	
Education	Elementary School	0 (0,0)	3 (100,0)	0,574
	Junior High School	16 (48,5)	17 (51,5)	
	Senior High School	32 (48,5)	34 (51,5)	
	University	6 (50,0)	6 (50,0)	
Work Unit	Office	10 (47,6)	11 (52,4)	0,980
	Non Office	44 (47,3)	49 (52,7)	
Work Rules	Shift	35 (39,8)	53 (60,2)	0,004
	Non Shift	19 (73,1)	7 (26,9)	

The result of the influence test in Table 1 shows that the independent variables which significantly influence the exclusive breastfeeding variable are the age and working hours. It can be seen from p value $< 0,05$ from logistic regression test of age variable is 0,036 and variable of work rules is 0,004.

One of the factor that influence exclusive breastfeeding is the age of the mother. According to Organization of National Demography and Family Planning, age 20 - 30 years are safe age for reproduction, and in general mother's ability to breastfeed is better at that age than they who aged over 30 years old¹³. Based on the results of the study above, we found that there is an influence between age and exclusive breastfeeding, with the age group who give exclusive breastfeeding mostly aged 20-35 as many as 40 respondents (54.8%). While respondents aged > 35 years and give breastfeeding as many as 14 respondents (34.1%). This study is consistent with the study of Handayani (2007) which stated that age influences how breastfeeding mother make decision in exclusive breastfeeding, the older the age, increase their experience and knowledge⁸. Breast degeneration process regarding the size and alveoli gland encounter a regression which begins at the age of 30 years. So with that process, the breast tends to produce less milk. Younger mother produces more breast milk than older mother¹².

This study is also in line with the study of Abdulaziz (2016) conducted on 166 working respondents, of which nearly half of the workers aged 30-34 years were 51 respondents (37%)¹. The result of the statistical test showed that there is an influence between age and exclusive breastfeeding with p -value 0.0001. Study that conducted on working women in Nigeria showed that women who are relatively young (≤ 25 years) or too old (≥ 36 years) have a lower prevalence compared with those aged between 26-35 years. This is due to lack of breastfeeding experience on young women. Whereas older women tends to have much experience¹⁴. Age also determines the level of maturity of a person in taking a decision to act. Maternal age is crucial to maternal health and related with pregnancy condition, labor and childbed as well as how to nurture and breastfeed their babies. Mother who is younger than 20 years old is still immature and not yet ready in physical and social terms to face pregnancy, childbirth and foster new born baby⁵. According to Hurlock (2008) mother aged 20-35 years, is referred as "adulthood" and also called the

reproductive period, emotionally calm, especially when facing pregnancy, labor, childbirth and care for her baby.

The success of exclusive breastfeeding may be affected by the occupational status of the mother. Working mother has the potential to fail breastfeed her baby exclusively due to many factors, one of which is working hours. Working hours may affect exclusive breastfeeding, due to the working hour's differences between shift working mother and non-shift working mother may affect the condition of the mother. Based on the results of study above, we found that most workers who have shift working hour tend not to give exclusive breastfeeding of 53 respondents (60.2%), and most workers who do not have shift working hour tend to give exclusive breastfeeding of 19 respondents (73.1%). So that there is a significant influence between the rules of working hour and exclusive breastfeeding. This is in accordance with the result of Dina's study (2016) which stated that the mother who work on shift working hour tend not to give exclusive breastfeeding to her baby (97.7%)⁵. The results of this study indicate a significant value with p -value 0.003 so that there is an influence between mother's working hours with the success of exclusive breastfeeding. In addition, the result of the study conducted by Alice Lakati (2002) also showed an influence between working with shift and non-shift system to exclusive breastfeeding in the first and second months². Study conducted by Yi Chun Cheng (2006) on 998 respondents showed similar result that most workers who have shift working hours did not give exclusive breastfeeding of 770 respondents (77.2%)³. The statistical test showed the influence of occupational factor (working hours rules) on exclusive breastfeeding with p -value < 0.001 . Christian (2014) also stated that based on rotational work schedules defined as working in shifts that change periodically, can make it difficult to continue breastfeeding routinely. This was indicated by the result of his research that is 55.2% of respondents who work are not giving exclusive breastfeeding to the baby.

This condition can occur because the worker mothers shift system has a greater potential for fatigue or stress that affects the physical condition of the mother and can affect lack of milk production. When a mother is in a state of fatigue or stress, the hormone oxytocin will also be hampered so that milk production will also decline. Oxytocin hormone is one of the hormones that can affect milk production. Fatigue will also make the

mother lazy to breastfeeding her baby and tend to choose more practical formula milk ².

Conclusion

Almost half of respondents gave exclusive breastfeeding of 54 respondents (47.4%).

Most of the respondents were aged between 20-35 years old and gave exclusive breastfeeding to their infants of 40 respondents (54.8%), almost half of them aged > 35 years old and exclusively breastfeeding of 14 respondents (34.1%).

Most of the respondents with high school education gave exclusive breastfeeding to their infants as 32 respondents (48.5%), half of them had a university education of 6 respondents (50.0%), almost half of them had junior high education of 16 respondents (48.5%), and none of them have elementary education.

Most of the respondents worked in non-office units and exclusively breastfeeding their infants by 44 respondents (47.3%) and the others in the office unit of 10 respondents (47.6%).

Most of the respondents working in non-shift work hours and exclusive breastfeeding of 19 respondents (73.1%).

Based on simple logistic regression test, there is a significant influence between age and working rule on exclusive breastfeeding with *p-value* <0,05.

Conflict of Interest: None

Source of Funding: Department of Occupational Health and Safety, Public Health Faculty, Airlangga University, Surabaya, Indonesia

Ethical Clearance: The research proposal has been approved by Health Research Ethical Commission of Public Health Faculty Airlangga University, number: 120-KEPK 2017. All respondents were given explanation and information about the purposes and methods of the research, and also had signed informed consent forms.

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