

Environmental Factors on Infant Feeding Practices in Lombok Island – Indonesia

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Abstract: Achieving the Sustainable Development Goals (SDGs) 2030 that related to health is very important to improve the quality of life for all people, babies are included. The vision is 'no one left behind'. Exclusive breastfeeding is a smart investment for our baby. Thus, the World Health Organization recommends to all of the health centers in the world to promote exclusive breastfeeding. However, the practice is not easy. In this study, the researcher found out environmental factors on infant feeding practices. The factors are traditional beliefs on infant feeding practices, family influence, and health care location. Methods: The sample of this research were 700 mothers who have a baby age six months – twelve months. We used a questionnaire as a tool to gather the data. The univariate and bivariate analysis was performed using the Chi-Square test. Results: Factors traditional beliefs, family influence were associated with infant feeding practices with P-Value < 0,05 and health care location was not associated with infant feeding practices with P-Value = 0.09.

1 INTRODUCTION

Infant feeding practices is vital for many health workers to understand, either in the urban area or in the rural area. Adequate nutrition during infancy is very crucial for proper development and growth. Many researchers have documented that the period from birth to two years of age is identified as a “critical window” for the promotion of optimal growth, health, and development.

This is because the child is susceptible to growth faltering, certain micronutrient deficiencies, and acute infection during this period that could lead to significant morbidity, mortality, and delayed mental and motor development. Thus, the importance of optimal feeding of infants and young children becomes a priority to avoid long-term consequences of malnutrition such as impaired mental performance, low work capacity, and poor overall health during adolescence and adulthood (Dewey, 2003).

Exclusive breastfeeding for the first six months of an infant's life is recommended worldwide. The United Nations Children's Fund (UNICEF, 2001) recommended that exclusive breastfeeding should be continued for six months. Therefore, World Health

Organization member states have been urged to develop an appropriate social support system to overcome and to adjust for factors associated with breast milk substitutes.

Indonesia has the fifth number of stunted children in the world, amounting to more than 7.6 million children (UNICEF, 2010). The number of children who have been abandoned is 2.8 million, and 3.8 million more are underweight. The United Nations in December 2010 reported that Indonesia faces a marked decrease in exclusive breastfeeding. The United Nations has teamed up with government and religious leaders to promote a practice that is proven to protect newborns and infants from diseases, illnesses, and impaired development.

Rates of exclusive breastfeeding in Indonesia have fallen from 42% in 1997 to 40% in 2002, with less than one-third of infants now being breastfed in line with global standards in the first six months of life. In 2007, exclusive breastfeeding rates fell to 32% (figure 1).

The introduction of early supplementation feeding is the preferred practice in the rural community, for example, in Lombok Island-Indonesia. Lombok Island is in the eastern region of Indonesia, adjacent to Bali Island as a world tourist attraction. In Lombok, mothers practiced traditional

infant feeding practices such as giving a day old baby smooth banana and even giving her Nasi Papak (a masticated rice that was chewed by her mother first and then given to the baby on the day after). These practices affected infant health seriously because their gastrointestinal tract was not ready to receive solid food.

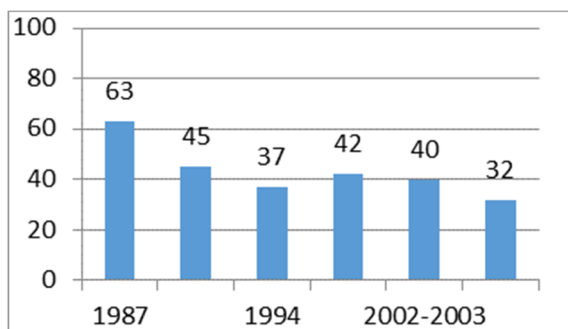


Figure 1: Exclusive breastfeeding rates in Indonesia (Indonesia Demographic & Health Survey 2008).

2 MATERIAL AND METHODS

2.1 Study Design

The research design was a community-based Cross-sectional Study.

2.2 Setting and Respondents

The study was conducted at five districts in East Lombok to cover 700 respondents. Keruak district 62 mothers, Terara district 83, Selong district 266, Pringgabaya 197 and Sambalia district 92 mothers. The respondents were mothers who had an infant age 6 – 12 months old with exclusion criteria, mothers whom infants who had specific problems (for example, cleft lips and palate).

2.3 Research Tool and Data Collection

To obtain the data, the study used a questionnaire that systematically covers several domains were (1) traditional beliefs of mothers on infant feeding practices (2) ease of access to the location of health services (3) family influence (4) Nasi Papak (rice that has been chewed by the mother and then wrapped in banana leaves to be kept overnight, and given to baby the next day).

2.4 Data Analysis

For the quantitative method, the questionnaire sheets were reviewed and coded after completion. The researcher with a daily check of the quality of data entry did the entry of the data to SPSS – Statistical Package for Social Sciences and errors were corrected immediately. The data had entered into Microsoft Access Database and were analyzed using SPSS 21 (SPSS Incorporation, Chicago, IL, USA).

Quantitative variables were normally distributed after testing for normality measures of central tendency, this histogram and Kolmogorov-Smirnov test ($p < 0.05$).

Percentage, proportion, and contingency tables were used for the description of the data.

3 RESULT AND DISCUSSION

3.1 Result

The descriptive reports show that respondents who were up to 18 years old, only 3.3%, while 96.7% were aged more than 18 years.

In the picture of the education level of respondents, the researcher found that only 8.3% of mothers who savor college or university level. While mothers who reached secondary school level at 47.1%, the sad part was there were still 2.5% of respondents who have never attended school at all.

In the description of the employment status of the respondents, the researcher found that 72.1% of mothers were no job. They mostly stay at home, clean the house, cook, and take care of their children. Some 27.9% of respondents had a work status. Generally, they work in hotels or restaurants, but there were also civil servants and private.

Some 73% of respondents had a family income up to 289 Ringgit Malaysia (eight hundred and ninety-five thousand rupiah). Only 27% of mothers had a family income of more than 298 Ringgit (eight hundred and ninety-five thousand rupiahs). Sasak people were used to growing vegetables, yams, cassavas, bananas, mangoes, and the like for their daily meals. That is why the income of working out, usually they used to buy other purposes than food. For the religious, the Sasak people embraced Islam. However, the traditional belief still exists hereditary derived from animism, dynamism, and Hinduism a thousand years ago. Lombok Island adjacent to Bali Island is also known as the island of a thousand pieces of the mosque.

Table 1: Socio-Demographic Characteristics of Respondents (n = 700).

Characteristics of Respondents		f	%
Age	Up to 18 years	23	3.3
	More than 18 years	677	96.7
Religion	Islam	700	100
Education	Never attended school	17	2.5
	Up to primary school	295	42.1
	Up to 2ndary school	330	47.1
	Tertiary Education	58	8.3
Occupational Status	Working	195	27.9
	Not Working	505	72.1
Family Income	Up to RM.298	511	73.0
	More than RM.298	189	27.0

3.1.1 Traditional Beliefs Associated with Good and Poor Infant Feeding Practices

Among respondents who have a strong belief in traditional beliefs, there were 42.9% of mothers who did good infant feeding practices. Vice versa, the respondents who have a weak belief in traditional beliefs, there was 65.2% of mothers who did good infant feeding practices, only some 34.8% who did poor infant feeding practices. Through the cross-tabulation test, the researcher found that P-value = 0.0001, which indicates there is a very strong association between traditional beliefs and infant feeding practices.

3.1.2 Family Influences Associated with Good and Poor Infant Feeding Practices

Among respondents who rated getting a strong influence on the baby's grandmother, found there were 60.5% of mothers who did poor infant feeding practices, while only 39.5% did good infant feeding practices. In those who have a weak influence on the baby's grandmother, 58.0% did good infant feeding practices, while the remaining 42.0% did poor infant feeding practices. The analysis shows $X^2 = 24.02$ (df = 1); $p = 0.0001$. This is the info that there is an association truly significant, between family influence with infant feeding.

Table 2: Association between Infant Feeding Practices and environmental factors.

Factors	Infant Feeding Practices				X^2	p-value
	Good Practices		Poor Practices			
	n	%	n	%		
	(340)		(360)			
Traditional Beliefs	224	42.9	298	57.1	26.32	0.001
Strong	116	65.2	62	34.8		
Weak						
Family Influenced	141	39.5	216	60.5	24.02	0.001
Strong	199	58.0	144	42.0		
Weak						
Health Care Location	75	49.3	77	50.7	0.05	0.001
Difficult	265	48.4	283	51.6		
Easy						

3.1.3 Health Care Accessibility Associated with Good and Poor Infant Feeding Practices

In the group of respondents who have the perception the health care location was easy to reach, there were found to be 51.6% did poor infant feeding practices, while the remaining 48.4% did good infant feeding practices and vice versa. However, the test result showed $X^2 = 0.05$ (df = 1); $p = 0.85$, this means there is no association between the location of health care with infant feeding practices

3.2 Discussion

3.2.1 Traditional Beliefs Associated with Good and Poor Infant Feeding Practices

In this study proved, significantly, those traditional beliefs in society Lombok, most associated with infant feeding practices. Mothers who have a strong belief in local beliefs, it seems more likely to do poor infant feeding practices, than in those who believe in traditional beliefs.

That result consistent with a study in South Easter Turkey that there was an association between traditional cultures and beliefs with infant feeding practices among mothers (Geckil et al., 2006).

Higgins (2000) stated that there was a correlation between Puerto Rican cultural beliefs and their infant feeding practices. Barbara Higgins conducted her study in Western New York, United States. It

was because of the high incidence of anemia in the Puerto Rican pediatric population in the United States, as compared to the incidence in the general pediatric low-income population, in The United States, as compared to the incidence in the general pediatric low-income population, including other Hispanic (US Department of Health and Human Service 1990).

3.2.2 Family Influences Associated with Good and Poor Infant Feeding Practices

In Indonesia especially outside big cities, a new couple usually stays with their family. They live in an extended family, which means in one house there are grandmother, grandfather, sister, and brother. In this study, we assessed the grandmother's role in their grandchild feeding. A newborn baby is a very special gift for grandmothers. Therefore, the grandmother usually takes the role without asking permission or willingness from her daughter/daughter in law.

Some research suggests that significant others such as a woman's partner and her mother and mother in law are influential in decisions and practices about infant feeding, but precisely how and why this happens, need investigation (Aubel et al., 2004; Grassley & Eschiti 2007).

This finding is consistent with findings in the literature that the attitudes of the grandparents play an important role in determining the initiation and duration of breastfeeding practices (Wachs et al. 2005).

In some parts of Lombok Island, a paternal grandmother is very influential. These women have considerable influence over their sons' marital relationship. If a mother in law mother felt it necessary, she could recommend divorce for her sons. A mother in law could take a child away from a mother if she felt the child was not being cared for properly. Their powerful influence means that many young mothers obey their mothers-in-law on child feeding suggestion even if the midwife or doctor has told them differently. It is revealed in the focus group discussion, an informant said that if their husband helped with childcare and feeding, their mothers-in-law complained. That means, how important is the role of grandmother, in various decisions in the homes of their children. From a public health perspective, it would be nice if they were included in the promotional programs good infant feeding practices.

3.2.3 Health Care Accessibility Associated with Good and Poor Infant Feeding Practices

Health care accessibility and its influence related to infant feeding practices have been assessed in this study. Access to a primary health care facility is projected as a basic social right (United Nations, 2001). Indonesia Government tried committed with that statement through provided the least midwife in one village. Nevertheless, that is not enough, because one village contains 3-5 *Dusun* (sub-village). In addition, every sub-village has a wide area. Fortunately, there are cadres (*Kader*) who have the willingness to visit the household and give simple health messages or suggestions.

For some women who were still choosing TBAs as birth attendants in this study, sometimes even though healthcare was accessible, they feel more comfortable with TBAs than midwives do.

The distance separating patients and clients from the nearest health facility has been remarked as an important barrier to use, particularly in rural areas (Government of Pakistan, 2000). The long-distance has even been a disincentive to seek care especially in the case of women who would need somebody to accompany. As a result, the factors of distance have strongly adhered to other factors such as the availability of transport, the total cost of one round trip and women's restricted mobility.

Promotion of interest of breastfeeding infants, as far as the researcher's knowledge, also has not been promoted in places where women work, such as in government offices or private. The fact that the mother in this research work is less able to do good infant feeding practices, presumably of intervention should be considered by decision-makers. Although this study conducted only in East-Lombok, the results are would useful for West Nusa Tenggara Province Government.

This study shows that good infant feeding practices influence the state of maternal employment status, and the mother's ability to face commands the baby's grandmother, refused to perform the traditional beliefs that affect their health and their infants and a good understanding of the pattern of infant feeding.

4 CONCLUSIONS

Several conclusions emerge from this study. The evidence presented indicates some factors that must be considered to promote good infant feeding

practices among women in a rural area in Lombok Island.

- More than half of the respondents in this study did poor infant feeding practices, while 340 mothers (48.6%) did good infant feeding practices.
- Working mothers are at risk of not able to implement good infant feeding practices compared with mothers who did not work
- The mothers who have low levels of education, it seems, are easier to do good infant feeding practices, compared with mothers who had a high level of education.
- A mother who has good knowledge about infant feeding practices, shows, better able to implement good infant feeding practices, compared to those who have poor knowledge about infant feeding practices.
- Mothers with a weak belief in traditional beliefs were predicted to have a high chance to do good infant feeding practices than those who have a strong belief that traditional things.
- The mothers who were less influenced by grandmother showed higher chances to implement good infant feeding practices, compared to those who received a strong influence of the grandmother.
- Women have many misconceptions about breastfeeding and weaning. Therefore, they still avoided colostrum and gave pre lacteal feedings such as honey, sugar fluid or *Zam-zam* water.
- Giving rice *Papak* (masticated rice) is still frequently practiced in the area of East Lombok. The mother gave it even to an infant who aged only a day old.

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