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THE CORRELATION BETWEEN EDUCATION, WORK, AND MATERNAL KNOWLEDGE ON COMPLEMENTARY FEEDING WITH 6-24 MONTHS' NUTRITIONAL STATUS

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ABSTRACT

Background: Indonesian Basic Health Research in 2018 reported that the prevalence of malnutrition in Indonesia was 17.7% which consists of 13.8% malnutrition and 3.9% severe malnutrition. In West Java Province, the prevalence of malnutrition and severe malnutrition is still high at 15.6%. The aim of this study is to examine the correlation between education, work, and maternal knowledge about complementary feeding with baby nutrition status aged 6-24 months.

Methodology: This was a cross sectional study. The sample of this study was 100 mothers of infants aged 6 to 24 months in the Tegalgubug Health Center, in Cirebon City which selected by cluster sampling. Data have been collected from questionnaires and anthropometric measurement of weight for age Z (WAZ). Nutritional status was categorized into malnutrition status if z score < -2 SD up to < -3 SD, and good nutrition status if z score -2 SD to 2 SD. The analysis of the study was tested by Spearman correlation.

Results: From 100 respondents, 51% of them were low educated mother, 55% were working mother, 51% had good knowledge, and 83% had good nutrition's babies. The bivariate analysis showed that education, working status, and mother's knowledge about complementary feeding were statistically significant correlated with nutritional status of infants ($p=0.021$, $p=0.020$, $p=0.013$, respectively).

Conclusion: Education, working status, and knowledge were significant correlated with nutritional status of infants aged 6 to 24 months. Malnutrition of infants can be greatly reduced by educating maternal about complementary feeding and given accurate information about nutritional status of infants.

Keywords: Education, complementary feeding knowledge, nutritional status

INTRODUCTION

Nutrition is substantial for child growth and development. Adequate nutrition is needed for the development of children, with the period from pregnancy to the age of two years becomes the most critical times for growth, health and optimal development in the future. The Global Strategy for Infant and Young Child Feeding (IYCF) states that the importance of feeding babies and young children includes breast milk and complementary feeding as main determinant of child nutrition [1].

Indonesian Basic Health Research in 2018 reported that the prevalence of malnutrition in Indonesia was 17.7% which consists of 13.8% malnutrition and 3.9% severe malnutrition. It declined 1.9% from the result of the Indonesian Basic Health Research in 2013 where the Indonesian toddlers experienced malnutrition; meanwhile, malnutrition declined 0.1% from 2013. In West Java, the prevalence of malnutrition and severe malnutrition are still high at 15.6% [2]

Mother is the main source of care that her child needs during the first five years of life. Knowledge of food need is very important for good health and overall nutritional status. Sometimes, mothers do not know the importance of variety and balance in food, the right amount and types of food needed by children to meet their food needs. Without adequate knowledge, malnutrition and poor nutritional status may occur in house holds with adequate income, food and health services [3].

Mother's education has been proven to be the most important predictor of chronic malnutrition. The possible explanation could be that the knowledge and understanding of mothers have on child nutrition and feeding practices are likely to have a positive impact on their children nutritional status. Proper education of mothers, in addition to improving their children's feeding practices, will lead them to recognize signs of malnutrition and increase health care seeking behaviors [4].

In addition to mother's education, what contributes to infant nutritional status is working mother. Working mothers have higher level of information than normal housewife since the formers have greater exposure on nutritional status information [5], and have benefit in fulfilling nutrition in the household. It may also be important for mothers to have their own money so that they can buy a variety of food for babies. Therefore, working mothers could be an important step to take in improving child nutritional status [6].

To achieve optimal growth and development, in the Global Strategy for Infant and Young Child Feeding, WHO/UNICEF recommendations, there are four important things to do. First, giving breastmilk to the baby immediately within 30 minutes after the baby is born. Second, giving only breastmilk or exclusive breastmilk from birth until the baby is 6 month old. Third, giving complementary feeding since the baby is 6 month old to 24 month old. And fourth, continuing breastmilk until the child is 24 month old or more [7].

In the developing countries, adequate nutrition is not fulfilled as a result of poverty, poor of knowledge about nutrition, poor child feeding and infections leading to high mortality [8]. In addition, complementary feeding is given too early and the quality and quantity of food is insufficient; thus, children are at risk of nutritional deficiency [9]. Seeing this background, the aim of this study is to assess the correlation of mother's education, occupation, and knowledge of complementary feeding with nutrition status of 6-24 month old babies in the Community Health Center of Tegalubug, Cirebon Regency.

METHODS

This study used an observational analytical study with a Cross Sectional approach. It emphasizes the measurement and observation data at one time on the dependent variable and the independent variable. It was conducted from January to March 2019. It assessed the mother's education, occupation, knowledge about complementary feeding and the baby nutritional status from 11 Integrated Health Post in the working area of the Community Health Center of, Tegalubug Cirebon Regency. The sample of 100 mothers with 6-24 month old babies determined using cluster sampling technique. The respondents participated in this study were asked for written approval by filling out the informed consent.

Subjects of Research

There are three main subjects included in this study. First, 6-24 month old babies who came to the Integrated Health Post. Second, the mothers/caregivers who were willing to be the respondents and fill out the questionnaire. Third, the mothers with 6-24 month old babies living in the working area of the Community Health Center of Tegalubug, Cirebon Regency. The excluded subjects in this study are the babies with an infectious disease and mothers with babies suffering from chronic illness.

Levels of Mother’s Education, Work and Knowledge about Complementary Feeding

Subjects were given a questionnaire containing about mother’s education, occupation and knowledge regarding the complementary feeding. The level of knowledge can be divided into poor knowledge if < median value and good knowledge if > median value.

Measurements

Anthropometric measurements (weight and age) were obtained from babies included in the study. The nutritional status indicators, weight for age Z (WAZ), were compared to the reference data from World Health Organization standards [10]. Children below <-2 up to <-3 standard deviations (<-2 SD to <-3 SD) of the WHO median for WAZ were considered malnutrition, while below -2 to 2 standard deviations (-2SD to 2 SD) were considered good nutrition. To find out the correlation of mother’s education, occupation and knowledge of complementary feeding with nutritional status of 6-24 month old babies in this study, the collected data were analyzed using Spearman correlation.

RESULTS

Characteristic of respondents

From 100 respondents included in this study, most of the mothers are <35 year old of 76%, 13-24 month old babies of 51%, and the baby’s gender of the babies is mostly female of 57%.

Correlation of mother’s education, occupation and knowledge of complementary feeding with nutritional status of 6-24-month-old babies

The correlation of education, occupation and knowledge of complementary feeding with nutritional status of 6-24 months old babies. Data were analyzed using by Spearman’s correlation with significant level of p<0,05.

Table 1. The correlation of mother’s education, occupation and knowledge of complementary feeding with nutritional status of 6-24-month-old babies

Variable	Nutritionstatus		Total	pvalue	r
	Malnutrition	Good			
Education					
Low	13 (13%)	38 (38%)	51 (51%)	0.021	0.231
High	4 (4%)	45 (45%)	49 (49%)		
Total	17 (17%)	83 (83%)	100 (100%)		
Occupation					
Unemployed	11 (11%)	34 (34%)	45 (45%)	0.020	0.233
Employed	6 (6%)	49 (49%)	55 (55%)		
Total	17 (17%)	83 (83%)	100 (100%)		
Knowledge					
Poor	13 (13%)	36 (36%)	49 (49%)	0.013	0.249
Good	4 (4%)	47 (47%)	51 (51%)		
Total	17 (17%)	83 (83%)	100 (100%)		

Spearman's correlation analysis shows that there was a significant correlation ($p=0.021$) of the mother's education with the nutritional status of 6-24 month old babies, i.e. weak correlation ($r = 0.231$), significant correlation ($p=0.020$) of the mother's occupation with nutritional status of 6-24 month old babies, i.e. weak correlation ($r=0.233$) and significant correlation ($p=0.013$) of the mother's knowledge about complementary feeding with nutritional status of 6-24 month old babies, i.e. weak correlation ($r=0.249$).

DISCUSSION

The role of mothers is important in providing care for early childhood. Mother's education is one of the key factors for the improvement of child health levels and plays a significant role in child cognitive development and educated mothers have more accesses to information, implement good health practices and take part in solving family health issues [5].

Based on the results of Spearman correlation analysis, pvalue was 0.021 with correlation coefficient value of 0.231, meaning that there was a significant correlation of the mother's education variables with nutritional status of 6-24-month-old babies in the Community Health Center of Tegalugub, Cirebon Regency, with a weak correlation and positive correlation. These results are in line with previous research conducted by Berisha (2017) showing that there was a significant correlation of mother's knowledge of complementary feeding with their level of education[11].

Mother's education becomes a factor that influences the knowledge of food security. The level of knowledge is higher for those who have an academic education because in academic education, knowledge of providing complementary food, food safety, suitable foods for children, how to cook the right food is better [12]. It doesn't mean that someone who has low level of education is also absolutely poor in knowledge, since it can be obtained not only from formal education, it is also can also be obtained from non-formal education directly or indirectly such as mass media, counseling, and leaflets [13]. This study shows that mother's education in the working area of the Community Health Center of Tegalugub is low(51%).

Mother's occupation is another effective factor for knowledge of food security, and working mothers have a higher level of information than unemployed mothers since working mothers have greater exposure to higher levels of information [12].

Based on the results of Spearman's analysis, pvalue was 0.020 with correlation coefficient value of 0.233. It means that there was a significant correlation of mother's occupation with nutritional status of 6-24 month old babies, with a weak correlation and positive correlation. It is in line with previous research conducted by Firdisa (2018) stating that mothers' education level, age and occupation have a significant influence on the mothers' knowledge of complementary feeding, attitudes and nutritional status of infants/young children [14].

In the Community Health Center of Tegalugub, Cirebon Regency, most of the mothers are working (55%) and have good nutrition (49%). Working mothers will improve household opinion and have benefit in fulfilling nutrition for the household and herself. Working mothers can improve the status and strength of women and their income is used for health and nutrition needs. This affects the welfare of children, including the development of healthy children. Children of unemployed mothers were severely wasted compared to children of working mothers [6].

Based on the results of Spearman correlation analysis, pvalue was 0.013 with correlation coefficient value of 0.249. It means that there was a significant correlation of mother's knowledge of complementary feeding with nutritional status of 6-24 month old babies, with weak correlation and positive correlation. It is inline with previous research conducted by Siagian (2014) stating that there is a correlation

of mother's knowledge with children's nutritional status [15].

In the Community Health Center of Tegalbug, Cirebon Regency, most of the mothers have a good knowledge of complementary feeding of 51% and good nutrition of 47%. The knowledge of food ingredients will affect the dishes served in the family. With adequate knowledge, the mother will provide good food for the family, especially for babies. Therefore, it is expected that nutrition for children will be fulfilled as their needs. Poor knowledge of nutrition will affect the emergence of nutritional problems leading to the emergence of nutritional problems that will disrupt the growth and development of children [15].

The poor level of mother's knowledge of children's health and nutrition shows a lack of adequate nutrition and health education for mothers. It can be attributed to the mother's education level because it has an effect on the mother's knowledge of health and nutrition, attitudes and food intake of children [3]. It is important to provide accurate information and education about complementary feeding to prevent malnutrition and improve children's health status [16]. Increased mother's knowledge and attitudes through nutrition counseling and education can lead to the increased practice of feeding infants and children, and consequently, enhancing children's growth and development [17].

CONCLUSION

From the result of this study, it can be concluded that there is significant correlation of mother's education, occupation and knowledge of complementary feeding with nutritional status of 6-24 month old babies with a weak correlation and positive correlation. The limitation of this study is that it depends on what the respondents remember about the time of giving food and drink to the babies and the coverage of the research which is less extending. For Community Health Center, malnutrition of infants can be greatly reduced by educating the mothers about complementary feeding and giving accurate information about nutritional status of the babies.

CONFLICT OF INTEREST

The authors declare no conflict of interest

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