FACTORS RELATED TO NUTRITIONAL CHILDREN IN GUNUNG KALER PUSKESMAS, TANGERANG REGENCY

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Abstract. The prevalence of underweight in 2018 in Indonesia is 17.7%, consisting of 3.9% malnutrition and 13.8% malnutrition. Banten is one of the sixteen provinces in Indonesia showing a prevalence of underweight, where in 2016 the number of malnutrition in toddlers reached 1051 toddlers spread in 8 cities / regencies in Tangerang, Banten, in 2017 the number of malnutrition in toddlers was 74 toddlers.
The Research Objectives is To find out the factors that are related to underweight status in children under five at Gunung Kaler Health Center, Tangerang Regency, Banten Province.
Descriptive correlative study with case control approach. The sample in this study were toddlers at Gunung Kaler Health Center as many as 58 under five malnourished children and 58 under-fives with good nutrition taken by purposive sampling technique. Data was obtained by distributing questionnaires and measuring nutritional status. Data analysis using univariate and bivariate with chi-square test.
The Results is There is a relationship between maternal knowledge (Value = 0,000; OR = 5,884), family income (Pvalue = 0.002; OR = 3,709), parenting style (Pvalue = 0,000; OR = 6,331), infectious disease (Pvalue = 0,000; OR = 4,222) with nutritional status of toddlers.
Conclusions and Suggestions of this research are Mother's knowledge, family income, upbringing and infectious diseases are associated with poor nutritional status in toddlers. Puskesmas increase the frequency of counseling for mothers who have toddlers in particular. Besides that, there was a knock on door program by following up toddlers with under-nutrition status.

Keywords: Nutritional Status, Toddler, Knowledge, Family Income, Infections Desease

BACKGROUND

Nutritional problems are included in the Millennium Development Goals (MDGs) with the first objective of overcoming the problem of malnutrition, improving children's health and reducing child mortality, one of which is caused by poor nutrition. The problem of malnutrition and undernutrition does not seem to be able to be resolved properly on an international and national scale, it is recorded that 101 million children in the world under five years of age suffer from malnutrition.
According to the United Nations Children's Fund/UNICEF (2013) (UNICEF, 2013) it is recorded that hundreds of millions of children in the world suffer from malnutrition, which means that this problem occurs in a very large population. Every year approximately 11 million children under five worldwide die from diseases such as ARI, diarrhea, malaria, measles, and others. Ironically, 54% of these deaths were related to the presence of malnutrition and in 2010 the incidence of malnutrition in children under five increased from

27.5% to 28% (UNICEF, 2013). The prevalence in 2011 was 17.9% consisting of 4.9% malnutrition and 13% malnutrition (WHO, 2011)

Basic Health Research (2018) shows the prevalence of underweight in Indonesia in 2018 was 17.7%, consisting of 3.9% of malnutrition and 13.8% of malnutrition. The prevalence rate is lower nationally when compared to Riskesdas in 2013 (19.6%) which consists of 5.7% malnutrition and 13.9% malnutrition. This shows that there is a decrease in the number of undernutrition and malnutrition but it remains a national problem that needs to be addressed (Kemenkes RI, 2019).

Banten is one of sixteen provinces in Indonesia which shows the prevalence of underweight. In 2016 the number of malnutrition in children under five reached 1051 children spread across 8 cities/districts (BPS Banten, 2016). Tangerang Regency is a Regency in Banten Province with the second highest number of malnutrition after Lebak Regency in 2016, namely 243 children under five (Dinkes Kab.Tangerang, 2016)

The impact of malnutrition is very complex, children can experience disturbances in mental, social, cognitive and growth development in the form of immaturity of organ functions, where the manifestation can be in the form of low immunity which causes susceptibility to diseases such as respiratory infections, diarrhea, fever (Supartini, 2014).). The problem of undernutrition and malnutrition is a multi-complex problem. In an effort to break the chain of malnutrition, of course, proper mapping is needed to be able to identify the main problems that cause malnutrition and malnutrition. From some of these data the authors are motivated to conduct research related to malnutrition in children under five. Research on indirect factors related to the incidence of malnutrition in children under five in the working area of the Gunung Kaler Public Health Center, Tangerang Regency has never been carried out, so the authors are interested in conducting this research.

Gunung Kaler Public Health Center is one of the health centers in the Tangerang Regency area which has high cases of malnutrition and malnutrition in children under five. Based on the results of monitoring nutritional status at the Gunung Kaler Health Center for 3 years, it is known that in 2016 there were 85 cases of malnutrition, in 2017 there were 74 cases of malnutrition. In 2018 there were 134 cases of malnutrition found.

METHOD

The type of research used is the type of quantitative research. This research method is an analytical survey with a case control design or retrospective study. The population in this study were all toddlers in the working area of the Gunung Kaler Public Health Center, Tangerang Regency for the period January - March 2022 as many as 980 toddlers with an average visit to the Puskesmas 245 toddlers.

The sample size of cases (undernourished children under five years old) is calculated using the Slovin formula (Hidayat, 2011) with an estimated number of undernourished populations in 2020 as many as 134. In this study using a case-control design with a ratio of cases and controls, namely 1:1, the sample size is 1:1. the minimum in this study were 58 case groups (undernourished toddlers) and 58 control groups (good nutrition children), so the total sample was 116 toddlers. The sampling technique in this research is using purposive sampling, which is a sampling method that is done by selecting samples that meet the research criteria for a certain period of time, so that the required number of samples is

met or the sampling is intentionally in accordance with the required sample requirements. This research will be conducted at the Gunung Kaler Public Health Center, Tangerang Regency. This research will be conducted on 15 February - 28 February 2022.

RESULT

In the research planning process, the sample in this study was 116 toddlers who met the inclusion criteria and exclusion criteria consisting of 58 undernourished children under five (case group) and 58 well nourished (control group).

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Based on Table 1, it is known that from 116 respondents, 54 respondents with less knowledge (46.6%) while good knowledge were 62 (53.4%).

Table 1
Frequency Distribution of Mother Toddler Knowledge at Puskesmas Gunung Kaler, Tangerang Regency, Banten Province in 2022.

Mother's Knowledge	Frequency	(%)
Not enough	54	46.6
Good	62	53.4
Total	**116**	**100**

Based on Table 2, it is known that from 116 respondents, respondents with low income (< MSE) were 73 (62.9%) while those with high family income (> MSE) were 43 (37.1%).

Table 2
Frequency Distribution of Family Income of Mothers and Children under five at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022.

Family Income	Frequency	(%)
Low (< UMK)	73	62.9
High ($\geq$ UMK)	43	37.1
Total	**116**	**100**

Based on Table 3, it is known that out of 116 respondents, 57 respondents (49.1%) with poor feeding parenting styles (49.1%) while 59 (50.9%).

Table 3
Frequency Distribution of Parenting Feeding Toddlers at Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022

Parenting	Frekuensi	(%)
Not good	57	49.1
Good	59	50.9
Total	**116**	**100**

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Bivariate analysis aims to examine the relationship between the independent and dependent variables. Bivariate analysis using Chi Square (X) test. The significant test was performed using the alpha significance limit (0.05) and the 95% Confidence Interval (confidence level).

Based on the results of Table 4, it is known that 58 malnourished children under five (cases) there are 39 respondents (67.2%) with mothers with less knowledge and 19 respondents (32.8%) with mothers with good knowledge. Meanwhile, from 58 well-nourished children under five (control) there were 15 respondents (25.9%) with mothers with less knowledge and 43 respondents (74.1%) with mothers with good knowledge.
From the results of the Chi Square test, a p-value of 0.000 ($<$ alpha $= 0.05$) can be concluded that there is a relationship between mother's knowledge and poor nutritional status at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022, with an OR value of 5.884 which means that knowledgeable mothers have less opportunity 5.9 times more likely to have under-fives with less nutrition than mothers with good knowledge.
Based on Table 5, it is known that 58 undernourished children under five (cases) there are 45 respondents (77.6%) with low family income ($<$ MSE) and 15 respondents (22.4%) with high family income ($>$ MSE). Meanwhile, from 58 well-nourished children under five (control) there were 28 respondents (48.3%) with low family income ($<$ MSE) and 30 respondents (51.7%) with high family income ($>$ MSE).
From the results of the Chi Square test, a p-value of 0.002 ($<$ alpha $= 0.05$) can be concluded that there is a relationship between family income and malnutrition status at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022, with an OR value of 3.709 which means that the mother has low family income. 3.7 times more likely to have under-fives with less nutrition than mothers with high family income.
Based on the results of Table 6, it is known that 58 undernourished children under five (cases) there are 41 respondents (70.7%) with poor feeding patterns and 17 respondents (29.3%) with good feeding patterns. Meanwhile, from 58 well-nourished children under five (control) there were 16 respondents (27.6%) with poor feeding patterns and 42 respondents (72.4%) with good feeding patterns.
From the results of the Chi Square test obtained a p-value of 0.000 ($<$ alpha $= 0.05$) it can be concluded that there is a relationship between feeding parenting and poor nutritional status at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022, with an OR value of 6.331 which means that mothers with Poor feeding parenting has a 6.3 times greater chance of having children under five with less nutrition compared to mothers with good feeding parenting styles.

DISCUSSION

a. Knowledge

The results of the study are known from 116 respondents, respondents with less knowledge are 54 (46.6%) while 62 (53.4%). In line with the research by Setyaningsih & Agustini (2014) on 'Knowledge, attitudes and behavior of mothers in Fulfillment of Toddler Nutrition: a survey', stated that most mothers of children under five had good knowledge of nutrition, namely 85 (75.9%). Based on the results of the analysis, it is known that 58 malnourished children under five (cases) there are 39 respondents (67.2%) with mothers with less knowledge and 19 respondents (32.8%) with mothers with good knowledge. Meanwhile, from 58 well-nourished children under five (control) there were 15 respondents (25.9%) with mothers with less knowledge and 43 respondents (74.1%) with mothers with good knowledge. The results of the Chi Square test obtained a p value of 0.000 ($<$ alpha $= 0.05$) it can be concluded that there is a relationship between maternal knowledge and malnutrition status at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022, with an OR value of 5.884 which means that knowledgeable mothers have less chance of 5.9 times more likely to have under-fives with less nutrition than mothers with good knowledge.

b. Income

The results of the analysis showed that 116 respondents, respondents with low income ($<$ UMK) were 73 (62.9%) while those with high family income ($>$ UMK) were 43 (37.1%). Based on the results of the analysis, it is known that 58 undernourished children under five (cases) there are 45 respondents (77.6%) with low family income ($<$ UMK) and 15 respondents (22.4%) with high family income ($>$ UMK). Meanwhile, from 58 well-nourished children under five (control) there were 28 respondents (48.3%) with low family income ($<$ MSE) and 30 respondents (51.7%) with high family income ($>$ MSE). The results of the Chi Square test obtained a p-value of 0.002 ($<$ alpha $= 0.05$) it can be concluded that there is a relationship between family income and malnutrition status at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2019, with an OR value of 3.709 which means that mothers with low family income have the opportunity 3.7 times more likely to have under-fives with less nutrition than mothers with high family income.

c. Parenting

Based on the results of the study, it was found that out of 116 respondents, 57 respondents (49.1%) with good feeding parenting styles were 59 (49.1%) while 59 (50.9%). This is in line with Handayani's research (2017) which states that more than half of them, 44 people (55.0%) have good parenting. Akbar et al's research (2016) stated that there were 53 mothers (53.3%) who had sufficient food intake and 47 (46.7%). Based on the results of the analysis, it is known that 58 malnourished children under five (cases) there are 41 respondents (70.7%) with poor feeding patterns and 17 respondents (29.3%) with good feeding patterns. Meanwhile, from 58 well-nourished children under five (control) there were 16 respondents (27.6%) with poor feeding patterns and 42 respondents (72.4%) with good feeding patterns. The results of the Chi Square test obtained a p-value of 0.000 ($<$ alpha $= 0.05$) it can be concluded that there is a relationship between feeding parenting and poor nutritional status at the Gunung Kaler Public Health Center, Tangerang Regency, Banten Province in 2022, with an OR value of

6.331 which means that mothers with this pattern Parenting giving bad food has a 6.3 times greater chance of having under-fives with less nutrition compared to mothers with feeding parenting patterns in the good category.

CONCLUTION

Based on the discussion of the results of research on factors related to the incidence of malnutrition in children under five at the Gunung Kaler Health Center, Tangerang Regency, Banten Province in 2022, it can be concluded that:

1. The population in this study was 134 undernourished and after being calculated using the Slovin formula, the sample size of the case was 58 undernourished toddlers and the control sample was 58 well-nourished toddlers with a ratio of 1:1 so that the total sample was 116.

2. Of the 116 respondents, some of them had good knowledge as many as 62 respondents (53.4%), low income (< UMK) as many as 73 respondents (62.9%), good feeding parenting patterns as many as 59 respondents (50.9%), there were 60 infectious diseases (51.7 %),

3. There is a relationship between mother's knowledge, family income, parenting, feeding and infectious diseases with the incidence of under-nutrition in children under five in the working area of Gunung Kaler Public Health Center, Tangerang Regency, Banten Province.

4. The biggest Odds Ratio is found in the variable of feeding parenting patterns (6,331)

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