

# Nutritional Status of Children under Five in Public Health Care Girimulyo II

EVI WAHYUNTARI<sup>1</sup>, FEBY RAMADHANI DEWI<sup>2</sup>  
*Universitas 'Aisyiyah Yogyakarta, Indonesia*  
*Email: evi.wahyuntari@unisayogya.ac.id*

## ABSTRACT

**Background:** Nutrition is an essential factor in determining physical growth and mental development.

**Aim:** This research aims to determine the nutritional status of children under five in the work area of the Public Health Center Girimulyo II Kulon Progo.

**Method:** This is descriptive research with a quantitative approach.

**Research Design:** A total of 86 respondents aged 0-59 months were required as the subject. Sampling was conducted in 3 *Posyandu* (Integrated Health Care Post) using stratified random sampling from 25 *Posyandu*. Three *posyandu* with the prevalence of high nutritional status including Sumberejo *Posyandu* with 29 respondents, Sukomoyo *Posyandu* with 54 respondents and Sibolong *Posyandu* with 17 respondents with some criteria: mothers are domiciling in Girimulyo, having a child in the range of 0-59 months old, having KMS book, and willing to be respondents. The respondents filled the questionnaire about the socio-demographic data and maternal knowledge about balanced nutrition and anthropometric measurements. Bodyweight was done using a mechanical scale. After the informed consent was given, the weighed baby put off the sandals and wore an article of very minimum clothing. The assessment of nutritional status used the Z score with the WHO standard. If the score was at -2 to + 2 SD, the nutritional status was expected, and the rest would be in the abnormal ones (Malnutrition and overnutrition).

**Results:** A description of a child's nutritional status under five years old in Public Health Centre Girimulyo II based on education showed that the respondents had a low level of education at 8 (42,1%) with an abnormal nutritional status. Based on knowledge, it showed that there were 14 (77.7%) respondents with a low level of expertise with strange dietary quality, and 11 (61.1%) respondents had a low socioeconomic status with abnormal nutritional status.

**Suggestion:** it should increase monitoring and evaluating nutritional status regularly to a child under five.

**Conclusion:** low socioeconomic and knowledge factors influence the fulfillment of children's nutrition.

**Keywords:** Nutritional Status, a child under five

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## INTRODUCTION

In developing countries, the rate of sickness and mortality to children under five was mostly determined by the nutritional status. Nutrition is one of the critical factors determining the health level between physical growth and mental development. An ordinary nutritional conditional can be achieved if the optimal nutritional substance needs are fulfilled/. One of the attempts to realize the optimal health level is through the increase of people's nutritional status. The nutritional status assessment can be done indirectly or directly, such as the anthropometric measurement [1].

*United Nations Children's Fund* estimates that 25% or 162 million children in the world will suffer from malnutrition; meanwhile, in Indonesia, 36% of children under five suffer from malnutrition [2]. Malnutrition is one of the leading nutritional problems in children under five in Indonesia [3]. The prevalence of malnutrition and poor nutrition starts to increase at 6-11 months and reaches its peak at 12-23 months and 24-35 months [4]. The World Health Organization (WHO) stated that Indonesia was classified as a country with high malnutrition because of the high rate of wasting and stunting in 2013, with 13.5% for wasting and 36.4% for stunting [5]. Basic Health Research showed the underweight prevalence in 2013 in Indonesia was 19.6%, consisting of 5.7% malnutrition and 13.9% malnutrition [6]. In the Special District of Yogyakarta, Malnutrition and Malnutrition's immense prevalence in the Kulon Progo region peaked at 14.9% [7].

Malnutrition's signs and symptoms include weight loss, difficulty breathing, vulnerability to disease, and a high risk of hypothermia. For children, it will bring an effect on mental growth and retardation [8]. Malnutrition can occur when the diet is insufficient to fulfill the calories and protein needed for the growth process.

Factors causing Malnutrition and Malnutrition might include poverty, education and parental knowledge, parenting, complementary foods, infections, and comorbidities such as HIV/AIDS [9]. The review of the article by Nabarro found that nutritional status is related to family socioeconomic [4]. Also, socioeconomic is associated with the nutritional status of children. It is different from the research of Ghazi revealing the prevalence of Malnutrition in Bangladesh at 18.2%, and education was not related to malnutrition in children aged 3-5 years [11]. Malnutrition can also occur for several things, such as abnormal feeding time, lack of food, insufficient knowledge of parents [12].

The impact of malnutrition is very complex, and in the future, it can lead to health problems in which the children can experience disorders in mental, social, cognitive and development, and growth in the form of the immaturity of organ function, where for its manifestation it can be in the form of low immunity making susceptible to diseases such as respiratory infections, diarrhea, fever. Also, it can inhibit cognitive behavior so that academic and social skills decline [13]. Cumber found malnutrition's effect on children aged 0-5 years: the body's decreased immunity, and it is

the cause of anemia and infant mortality [14]. Children with malnutrition need vitamin, and mineral intake as malnutrition can cause further complications after childbirth such as low birth weight, decreased immune, anemia, and disorder in neonatal development [14]. The lack of adequate nutrition is a factor of inhibition in growth and brain development and frequency of infection with various diseases that will cause death [15]. The provision of good food is base on the growth and development of children [2].

Most malnutrition can be healed, and it needs immediate action, prevention, and adequate care. In Indonesia, underweight prevalence is below 19.6%, including 5.7% poor nutrition and 13.9% malnutrition [6]. Yogyakarta, the prevalence is 8%, and the highest one is in Kulonprogo Regency with a prevalence of 10.9%. The efforts of health practitioners in handling the cases of Malnutrition and poor Malnutrition include the revitalization of Posyandu in increasing the coverage of weighing the children under five, counseling and mentoring, Breast Feeding (MP-ASI) or Supplementary Feeding (PMT), increasing health access, and free health services, contagious disease control and community empowerment through the program of Keluarga Sadar Gizi (Family Nutrition Awareness) (Kadarzi) [16].

In the work area of Public Health Center Girimulyo II, it has been found that 14.9% of children under five experienced low nutritional status. The preliminary study results with interviews with five families in Sumberejo Village included in the work area of Public Health Center Girimulyo II Kulon Progo found children who did not want to eat and the family that could not provide variations due to low income. This research aims to figure out children's nutritional status under five in the Public Health Center Girimulyo II.

**METHOD**

This descriptive research involved 595 children under five in the work area of Public Health Center Girimulyo II. The research sample involved 86 infants aged 0-59 months domiciled in Girimulyo, women with children aged 0-59 months, women having KMS books, and women who were willing to be respondents. The sampling used the Stratified Random Sampling from 25 Posyandu (Integrated Health Care Unit), 3 of which were selected with the high prevalence of nutritional status: Posyandu Sumberejo (29 respondents), Posyandu Sukomoyo (54 respondents), and Posyandu Sibolong (17 respondents). Data was collected by asking the respondents to complete 35 closed-questions socio-demographic data and maternal knowledge about balanced nutrition, which has been tested for the questionnaire's validity with product moment. Meanwhile, this research used Cronbach Alpha and anthropometric measurements for reliability, including weight and height, using the calibrated tools. The body was weighed using mechanical scales, while for the crown, it used the stature meters. After the informed consent was given, the weighed infants put off their sandals and wore the minimum clothing. The nutritional status assessment used the WHO standard Z score. If the value is at -2 to + 2 SD, the normal dietary status is in abnormal nutritional status (Malnutrition, severe underweight, and overnutrition). This research has been submitted to the Research Ethics Commission of Aisyiyah University number 178/KEP-UNISA /III/2018 [17].

**RESULTS**

Based on the research conducted in the work area of Public Health Care Girimulyo II, the description of the nutritional status of children under five can be presented as follows:

Table 1: Description of Nutritional Status of Children under Five

Characteristic	Nutritional Status of Children Under Five					
	Abnormal		Normal		f	%
	n	%	n	%		
<b>Education</b>						
Low	8	42.148	48	70.5	56	65.1
High	10	55.520	20	29.4	30	34.9
<b>Mother is working</b>						
No	9	50.052	52	76.4	61	70.9
Yes	9	50.0	16	23.5	25	29.1
<b>Knowledge</b>						
Low	14	77.7	35	51.4	49	57
Fair	0	0	0	0	0	0
Good	4	22.233	33	48.5	37	43
<b>Social Economics</b>						
Low	11	61.1	59	86.7	70	81.4
High	7	38.8	9	12.2	16	18.6

Based on the results (Table 1), it is found that for the nutritional status of children under five in the work area of Public Health Center Girimulyo II, most of the respondents had a low level of education, did not work with a low level of knowledge and low socioeconomic status. The respondents with low education were 8 (42.1%) with 10 (55.5%) respondents with higher educational level. The working mother was found at 9 (50.0%) in working mothers, and the mothers who did not work had the normal nutritional status. Respondents with low knowledge were 14 (77.7%) with abnormal nutritional status and 4 (22.2%)

respondents with good experience. The respondents with low socioeconomic were 11 (61.1%) with abnormal nutritional status and 7 (38.8%) with high socioeconomic status.

**DISCUSSION**

This research aims to observe the nutritional status of children under five in the Public Health Center Girimulyo. In this study, the respondents were mothers who had children aged 0-59 months, had KMS books, and routinely participated in Posyandu (with a total of 86 respondents).

The description of respondents in the work area of Girimulyo Health Center showed the respondents with a low level of education in which most of the respondents did not work and had a low social economy and nutritional knowledge. This was due to the northern region of Kulonprogo district is included as the highland, and this region is designed to be a conservation area. This area is also a land-prone disaster area [18].

The educational level of the mother is associated with malnutrition. The description of children's nutritional status under five in Girimulyo showed that most respondents had a low level of education. That education is a factor related to malnutrition in children aged 3-5 years. Parents with a high education level will better understand the food and choose food good for their children [19]. The education level of parents had a positive effect on child malnutrition. Children with highly educated parents were 20-25% less likely to experience nutritional deficiencies [20]. Maternal education would affect children's parenting. In this case, parenting includes monitoring child growth, giving immunizations, and maternal hygienic behavior to cause nutritional status problems [21].

The level of education also determines if an individual can easily absorb and understand the knowledge. The higher the education of an individual, the better his or her experience [22]. Education is a social indicator of society because it can change behavior and attitudes.

Factors that affect the nutritional status of children include the educational element [23]. The education level of a mother influences her behavior in managing the household, including daily food consumption. Education is not related to the incidence of malnutrition. It then shows that improving maternal education can reduce abnormal nutritional status as the mother is the primary caregiver for children. The level of maternal education is related to the nutritional status of children.

The study found 49 mothers with insufficient knowledge (56.97%) with children's abnormal nutritional status under five. The lack of parents' knowledge on nutrition and health is one of the causes of malnutrition in children under five. The study of Cumber found that 70% of mothers knew about malnutrition. In this case, malnutrition is when the body does not get the right proportion of food nutrition during childhood [14]. Malnutrition can be caused by poor hygiene conditions when preparing children's food, poverty, illness, and infection [24]; WHO states that diseases, lack of hygiene, and lack of clean water will cause malnutrition in children [25].

Mothers with good knowledge about nutritional status will choose, process, and serve nutritious food better for their children than mothers with less understanding about nutritional status. Mothers with less understanding about nutritional status cannot choose healthy foods, not knowing how to process healthy foods, and not serve good nutrition for children under five. This then causes the children under five at risk to experience a low nutritional status that is becoming thin or even very thin. A mother knowing the effects of dietary deficiencies can prevent it by providing nutritious foods. Cumber showed that 67% of mothers knew the impact of malnutrition, and 20% said they gave exclusive breastfeeding to prevent malnutrition [14].

The lack of nutrition knowledge will cause health problems for no balance between nutrients needed and nutrients received by the body [26]. Adequate knowledge, especially about health, can determine various types of health problems that might arise so that the solutions can be sought [27]. A good understanding of nutrition for mothers will influence the preparation of menus that are good for consumption. More knowledge about nutritional status enables one to consider the type and amount of food obtained for consumption. A mother's skill in preparing nutritious food menus makes the nutritional status of children under five suitable. Good nutrition is the basis for survival, health, and future generations that are better and healthier for their lives [2].

This study showed 61 non-working mothers (70.93%) and 9 (10.4%) children under five with abnormal nutritional status. In a previous study, Tette *et al.* (2015) found a relationship between mothers who did not work and the nutritional status of children under five with a value of OR 2.57, meaning that non-working mothers 2.57 times were associated with children's nutritional status five [28]. The non-working mothers have more time to care for their children. But this is not balanced by a balanced feeding of the children under five. Of course, for working mothers, the time given to their children will be less than those working/, but the working mothers can improve the quality of nutrition for their needs by increasing family income [29].

Jamra & Bankwar found a relationship between family income and the incidence of malnutrition in children under five. Family income is related to the presentation of food variations and purchasing power. In the community, the family with working parents is found but did not have substantial economic resilience. Income earned has not met daily needs, including meeting the needs of nutritious food and the market for family health [31]. Thus, the employment status cannot guarantee the family's ability to meet healthy food needs and meet the family's health needs, including children under five.

Family income can determine diet. People with a low-income level will usually spend some of their income on food. In contrast, people with high economic levels will reduce food spending because they already feel that they have enough food to be diverted for other needs rather than buying food. Income is the factor determining the quality and quantity of dishes. The higher the payment, the greater the percentage of purchase various foods such as fruit, vegetables, and some other types of food [32].

The socioeconomic description has been found 70 people (81.39%) with low socioeconomic status and 11 (12.7%) with abnormal nutritional status. The study of Nayak found 166 (87.4%) respondents malnourished [33]. The socioeconomic sector can affect or can be related to nutritional status in children under five. If a family has a large income and sufficient to meet family members' dietary needs, children's dietary needs are guaranteed. This is consistent with the previous studies showing the socioeconomic relation with malnutrition [34].

The increasing number of malnutrition can be caused by economic, political, and social unrest. One of the factors that influence malnutrition is a low economic status. Directly or indirectly, the financial condition affects

someone's ability to obtain the feasibility of food and facilities to support their health [35].

One of the predisposing factors that influence behavior is economic status, meaning that healthy living is controlled by the family's financial ability [36]. Income level also determines what type of food will be purchased. The higher the income, the greater the percentage of payment used to buy various kinds of foodstuffs [37]. Income levels are related to the quality and quantity of food consumed. Low income causes the low purchasing power of food and reduces family food consumption, affecting the nutritional status [38].

Income is an essential factor for the quantity and quality of diet in a family. The changes in income can affect nutritional parenting changes that directly affect food consumption in infants. The increasing income means the increase in the opportunity to buy food with good quality and quantity [4]. The low income will cause a decrease in rate and reduce the amount of food to be purchased, and the food to be consumed does not consider nutritional value. Still, the material value is considered more [4].

## CONCLUSION

This paper has discussed the children under five years nutritional status determination using descriptive research with a quantitative approach. The findings show that low socioeconomic and knowledge factors influence the fulfillment of children's nutrition.

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