

RESEARCH STUDY

Open Access

## Faktor Pencegahan Balita Bawah Garis Merah di Wonokusumo Surabaya

### *Prevention Factors For Toddlers Below The Red Line In Wonokusumo Surabaya*

Fitri Widyanti<sup>1</sup>, Nurshe Aliviolla Azmi<sup>1</sup>

#### ABSTRAK

**Latar Belakang:** Balita dengan BGM (Bawah Garis Merah) adalah balita dengan berat badan menurut umur (BB / U) berada di bawah garis merah pada KMS sehingga menunjukkan status gizi buruk. Balita BGM dapat dijadikan salah satu indikator awal bahwa balita tersebut mengalami masalah gizi yang perlu segera ditangani.

**Tujuan:** Untuk menganalisis permasalahan/gejala dan langkah pencegahan Balita Bawah Garis Merah di Wilayah Kerja Puskesmas Wonokusumo Surabaya.

**Metode:** Penelitian ini bersifat analitik observasional, dengan desain *cross sectional*. Subjek diambil dengan cara *simple random sampling*. Populasi penelitian ini adalah Ibu yang memiliki balita berusia 12-24 bulan yang bertempat tinggal di wilayah kerja Puskesmas Wonokusumo Surabaya. Variabel independen yang digunakan adalah kerentanan yang dirasakan, keparahan yang dirasakan, manfaat yang dirasakan, hambatan yang dirasakan, dan isyarat untuk mengambil tindakan, sedangkan variabel dependen yang digunakan adalah perilaku ibu pencegahan BGM.

**Hasil:** Penelitian ini menghasilkan beberapa simpulan, yaitu ada hubungan yang antara kerentanan yang dirasakan responden terhadap tindakan melakukan pencegahan balita BGM; ada hubungan antara keparahan yang dirasakan responden terhadap tindakan pencegahan balita BGM; tidak ada hubungan antara manfaat yang dirasakan responden terhadap tindakan pencegahan balita BGM; tidak ada hubungan antara hambatan yang dirasakan responden terhadap tindakan pencegahan balita BGM; dan tidak ada hubungan antara isyarat untuk bertindak terhadap tindakan pencegahan balita BGM.

**Kesimpulan:** Studi ini memandang pentingnya memantau pertumbuhan balita di posyandu dan pemberian PMT dapat mencegah balita BGM, karena Pemberian Makanan Tambahan (PMT) yang diberikan pada balita gizi buruk bertujuan memberikan asupan yang tinggi, tinggi protein dan cukup vitamin dan mineral secara bertahap, guna mencapai status gizi tetap optimal dan gizi yang seimbang.

**Kata kunci :** BGM, KMS, gizi, berat Badan, balita

#### ABSTRACT

**Background:** Toddlers with BGM (Below the Red Line) are children whose weight for age (W/U) is below the red line on the KMS, thus indicating malnutrition status. BGM toddlers can be used as an early indicator that the toddler is experiencing nutritional problems that need to be addressed immediately.

**Objectives:** This study analyzes the problems / symptoms and preventive measures for children under the red line in the Wonokusumo Health Center in Surabaya.

**Methods:** This research is an analytic observational study, with a cross sectional design. Subjects were taken by simple random sampling. The population of this research is mothers who have toddlers aged 12-24 months who live in the working area of the Wonokusumo Health Center in Surabaya. The independent variables used are perceived vulnerability, perceived severity, perceived benefits, perceived obstacles, and cues to take action, while the dependent variable used was maternal BGM prevention behavior.

**Results:** This study resulted in several conclusions, namely that there is a relationship between the perceived vulnerability of respondents to taking preventive measures for BGM under five; there is a relationship between the severity felt by the respondents on the prevention measures for BGM under five; there is no relationship between the benefits felt by the respondents on the prevention measures for children under five BGM; there is no

*relationship between the obstacles felt by respondents to the prevention measures for BGM under five; and there was no relationship between cues to act on precautions for BGM under five.*

**Conclusions:** *This study views the importance of monitoring the growth of children under five at the posyandu and providing PMT to prevent BGM from under five.*

**Keywords:** *BGM, KMS, nutrition, body weight, toddlers*

---

\*Koresponden :

fitri.widyanti-2018@fkm.unair.ac.id

<sup>1</sup>Departemen Gizi, Fakultas Kesehatan Masyarakat, Universitas Airlangga, Kampus C Mulyorejo, 60115, Surabaya, Jawa Timur, Indonesia

## INTRODUCTION

The number of health targets for children under five years old in 2018 in Indonesia is very large at around 19,270,715 or 7.5% of the total population of the Indonesian population (Kementerian Kesehatan RI, 2018). So the quality of growth and development of toddlers in Indonesia needs serious attention, namely getting good nutrition, adequate stimulation and affordable quality health services including early detection and intervention of growth and development deviations. The toddler period is a critical period and cannot be repeated, the golden period for the survival of the child's growth and development, if there is a deviation of growth and development that is late detected, then the handling is too late so it is difficult to repair (Larasati, 2019).

Under the Red Line (BGM) is the condition of children under five who experience growth problems due to malnutrition so that when weighing the under-five children under the red line on the KMS or malnutrition status (BW / U < -3 SD) or clinical signs. Meanwhile, according to the Ministry of Health of the Republic of Indonesia (2005), children under five BGM are children under five who are weighed below the red line on the Health Card (KMS) (Kemenkes RI, 2010). KMS is a card that contains the growth curve of children under five based on the anthropometric index of Body Weight for Age (BW / U) which serves as a tool to monitor the health and growth of children under five. Notes on KMS can show the nutritional status of children under five.

Toddlers with adequate nutrition have body weight in the green area, while yellow indicates malnutrition status, and if it is below the red line (BGM) indicates malnutrition status. Toddlers who experience malnutrition and do not gain weight twice should receive treatment in health services (Kemenkes RI, 2010)

In 2015 the percentage of children under five BGM was 0.7% (Dinkes Kota Surabaya, 2015). In 2016, the prevalence of BGM under five in Surabaya City was 0.76% (Dinkes Kota Surabaya, 2016). In 2017, the prevalence of BGM under five in the city of Surabaya was 0.64% (Dinkes Kota Surabaya, 2017). Based on data from the Surabaya City Health Office, the status of BGM for toddlers at Posyandu throughout Surabaya City in 2017 found that the prevalence of BGM was 0.66% with a total of 1,193 children under five from a total of 179,662 children under five.

The number of children under the Red Line (BGM) in the Wonokusumo Community Health Center in 2017 was 2.07%. The high number of children under five under the red line in Surabaya, especially in the Wonokusumo Community Health Center, has exceeded the prevalence target for malnutrition <1% (Pemerintah Kota Surabaya, 2021). This happens due to several factors,

Many factors influence the occurrence of malnutrition status, including the socioeconomic status of parents in terms of parents' work, the surrounding environment, parents' ignorance about providing good nutrition for children, parents' perceptions through received stimuli and based on later knowledge. to monitor the growth of children under five and take steps to control the nutritional status of children under five (Handayani, 2018)

According to Puspasari's research (2017), mothers who have more knowledge about nutrition with normal toddler nutritional status (57.5%) are more than mothers who have knowledge about nutrition with abnormal nutritional status (2.1%). Mother's knowledge about nutrition has a relationship with the nutritional status of children under five (BW / U). The mother's high level of knowledge about nutrition can affect the toddler's diet and ultimately will affect the nutritional status of the toddler. Grouped with the nutritional status of children aged 12-24 months, mothers who have the latest education level of SD / MI with normal nutritional status of children under five (25.5%) are more than mothers who have the last education level of SD / MI with abnormal nutritional status of children under five (17.0%) (Puspasari and Andriani, 2017).

Hayati, M., Sudiana, I., (2014) found that 95 (84.1%) respondents had a perception of sufficient vulnerability to the nutritional status of children under five, the perception of a person's vulnerability about the possibility of being exposed to a nutritional problem in their toddler will affect the behavior of parents and take prevention or seek treatment.

The results of monitoring the *Riset Kesehatan Dasar* East Java Province data in 2013 stated that the prevalence of children aged 0-59 months experiencing malnutrition was 4.9%, and the prevalence of

malnutrition children in 2018 was 3.35% (Kemenkes RI, 2018). In East Java Province still experiencing the occurrence of malnutrition.

In 2015 the percentage of children under-five years old Below Red Line was 0.7% (Dinkes Kota Surabaya, 2015). In 2016, the prevalence of under-five children Below Red Line in the city of Surabaya was 0.76% (Dinkes Kota Surabaya, 2016a). In 2017, the prevalence of toddler Below Red Line in the city of Surabaya was 0.64% (Dinkes Kota Surabaya, 2017). Based on data from the Surabaya City Health Office, the status of Below Red Line under-five in *Posyandu* throughout Surabaya in 2017 found that the prevalence of Below Red Line was 0.66% with a total of 1,193 under-five years old out of a total of 179,662 under-five.

Although in Surabaya malnutrition has decreased but there are still those who experience malnutrition and it needs to be considered to prevent malnutrition in Surabaya from increasing because in Surabaya there are still mothers who lack knowledge about nutrition so that it affects the intake given to their children.

The number of children under the Red Line (BRL) in the Wonokusumo Public Health Center in 2017 was 2.07%. The high number of children under-five years old below the red line in Surabaya, especially in the Wonokusumo Health Center Work Area by passing the target of malnutrition prevalence <1% (Dinkes Kota Surabaya, 2016). This happened due to several factors. This shows that in Surabaya there are still toddlers with malnutrition so that it can influence development in Indonesia, which has not been fully able to improve the quality of life of human resources.

In this study, there were 10 respondents with an age range of 25-36 years who had a perception of less seriousness, possibly due to insufficient knowledge about the nutritional status of toddlers, the more anxious or serious the individual is about the impact that will occur if they experience nutritional problems, the better. take action to improve the good nutritional status of children under five. As many as 71 people (62.8%) had sufficient perceptions of benefits and obstacles to the nutritional status of children under five. As many as 80 (70.8%) of respondents had instructions to behave adequately towards the nutritional status of children under five and stated that they felt a strong driving factor (Hayati, M., Sudiana, I., 2014).

In Surabaya, there are still many toddlers aged 12-59 months who suffer from malnutrition even though they have received health services from the local Puskesmas, especially in the Wonokusumo Puskesmas area, Surabaya, where there were 4,364 children under five and received 2,102 (48.17%) health services, but still As many as 80 children under five BGM (1.93%) still exceed the Strategic Plan target <1% (Dinkes Kota Surabaya, 2016b).

According to the results of research conducted by Rahmatillah (2018) in Wonokusumo Village, Surabaya, it was found that 65 respondents or around 18.75% had insufficient knowledge. This is indeed good enough, but still the mother's knowledge of toddler nutrition must be improved so that the mother's understanding and knowledge can be even better (Rahmatillah, 2018).

In addition, research by Rachmayanti, (2017) in Wonokusumo Village has insufficient knowledge about nutritional fulfillment. Most of the mothers did not pay attention to the age of the toddler and the type of food they were given. Most mothers provide the same food for toddlers with other family members. So that in refusing food, mothers of toddlers do not pay attention to the needs and nutritional status of children (Rachmayanti, 2017)

Based on the factors that cause problems with the occurrence of children under the red line, this study analyzes the problems / symptoms and preventive measures for children under the red line in the Wonokusumo Health Center in Surabaya.

## **METHOD**

This research is observational because with the consideration that it does not provide treatment using a cross sectional approach. The use of this approach is because the independent variable and the dependent variable are assessed stimulant at one time, so there is no follow-up. Not all research subjects must be observed on the same day or at the same time, but both the independent variable and the dependent variable are scored only once (Masturoh, Imas., T. Nauri, 2018).

The population in this study were all toddlers aged 12-24 months with a total of 691 toddlers and 31 Below Red Line toddlers, and the sampling technique to be taken in this study was Simple Random Sampling. So that a sample of 53 toddlers, 38 toddlers are good nutrition, 5 toddlers are poor nutrition (yellow line), and 10 toddlers are severe nutrition (red line), aged 12-24 months was obtained in the working area of the Wonokusumo Health Center. The independent variable in this study is the mother's behavior of Perceived Susceptibility, Perceived Severity, Perceived Benefit, and Perceived Barrier, while the dependent variable in this study is the behavior of mothers in preventing children under the Red Line.

Primary data were obtained through interviews with the mothers of the toddlers during *posyandu* activities or visits to respondents' homes using questionnaires. Secondary data were obtained from report data held by the City Health Office and Puskesmas. Data regarding the general description of the research location were obtained from the monographs of the work areas in each Puskesmas.

After the data is collected, the data is processed either manually or using a computer using the Statistical for the Social Sciences (SPSS) program. Then univariate analysis was carried out, namely analyzing each existing research variable descriptively which was presented by calculating the frequency distribution. After that, the data were analyzed and tested bivariately on the two variables to be compared using statistical tests (Masturoh, Imas., T. Nauri, 2018).

## RESULT

**Table 1.** Distribution of Research Subject Characteristics

Characteristics	N	%
<b>Age</b>		
21-30	37	69.8
31-40	15	28.3
>40	1	1.9
<b>Occupation</b>		
Work	10	18.9
Not work	43	81.1
<b>Education</b>		
Unemployment	1	1.9
Primary	26	49.1
Secondary	12	22.6
High School	12	22.6
Tertiary	3	3.8
<b>Knowledge</b>		
Good (76-100%)	22	41.5
Enough (56-75%)	28	52.8
Less (<56%)	3	5.7
<b>Total</b>	<b>53</b>	<b>100</b>

### Perceived Susceptibility to Mother's Actions in preventing BGM

This study used cross tabulation to determine the relationship between mother's perceived vulnerability to BGM prevention. This distribution can be seen in table 1 below:

**Table 2.** The vulnerability felt by mothers to BGM prevention measures in the Wonokusumo Health Center Surabaya Work Area in 2019

Predisposition being felt	BGM Prevention				Amount		p value
	Prevent		Not prevent		n	%	
	N	%	N	%			
Vulnerable	10	18,9	8	15,1	18	34,0	0,040
Not vulnerable	9	17,0	26	49,1	35	66,0	
<b>Total</b>	<b>19</b>	<b>35,8</b>	<b>34</b>	<b>64,2</b>	<b>53</b>	<b>100</b>	

Based on table 2, it can be seen that 10 respondents felt vulnerable to BGM and acted to prevent BGM and 9 respondents did not feel vulnerable to BGM and acted to prevent BGM as many as 9 people. From these results, it can be seen that respondents feel that they are more vulnerable to taking action to prevent BGM. The results of statistical tests obtained p value p value 0.040, which means p value  $< \alpha$  0.25 variable selected for multiple logistic regression test. The result of multiple logistic regression test shows p value 0.36  $< \alpha$  0.05, meaning that there is a relationship between the perceived vulnerability of respondents to taking preventive measures for BGM toddlers.

### Perceived Severity of Mother's Actions in Preventing BGM

This study used cross tabulation to determine the relationship between maternal severity and BGM prevention. This distribution can be seen in table 3 below:

**Table 3.** The perceived severity of the behavior of BGM prevention mothers in the Wonokusumo Community Health Center Surabaya in 2019

Seriousness	BGM Prevention				Amount		p value
	Prevent		Not prevent		n	%	
	N	%	N	%			
Critical	10	18,9	10	26,4	24	45,3	0.566

Not critical	9	17,0	24	37,7	29	54,7
<b>Total</b>	19	35,8	34	64,2	53	100

Based on table 3, it can be seen that 10 respondents felt the severity of BGM and acted to prevent BGM and 9 respondents did not feel the severity of BGM and acted to prevent BGM as many as 9 people. From these results it can be seen that the respondents did not feel the severity so they did not take action to prevent BGM. The results of statistical tests obtained p value 0.566, which means that the p value >  $\alpha$  0.25 was not selected to perform multiple logistic regression tests and there was no relationship between the severity felt by respondents on the prevention measures for BGM under five.

#### Perceived Benefits of Mother's Actions in Preventing BGM

This study uses cross tabulation to determine the suitability of the relationship between benefits felt by the mother and prevention of BGM can be seen in table 4 below:

**Table 4.** Benefits of Mother's Feeling of BGM Prevention in the Work Area of the Wonokusumo Community Health Center in Surabaya in 2019

Significance	BGM Prevention				Amount		p value
	Prevent		Not prevent		n	%	
	N	%	N	%			
Useful	6	11,3	13	24,5	19	35,8	0.768
Not useful	13	24,5	21	39,6	34	64,2	
<b>Total</b>	19	35,8	34	64,2	53	100	

Based on table 4, it can be seen that there were 6 respondents with the perceived benefits of taking BGM preventive measures and 13 respondents did not feel the benefit of BGM prevention measures. From these results, it can be seen that respondents do not feel that they are beneficial, so they do not act to prevent BGM. The statistical test results obtained p value 0.768, which means that the p value >  $\alpha$  0.25, then it is not selected to do multiple logistic regression tests and there is no relationship between the benefits felt by respondents on preventive measures for children under five BGM.

#### Perceived Barriers to Mother's Actions in Preventing BGM

This study used cross tabulation to determine the relationship between the suitability of the barriers that mothers felt against BGM prevention measures. This distribution can be seen in table 5 below:

**Table 5.** Obstacles Felt by Mother on Prevention of BGM in the Work Area of the Wonokusumo Health Center in Surabaya in 2019

Barrier	BGM Prevention				Amount		p value
	Prevent		Not prevent		n	%	
	N	%	N	%			
Barrier	15	28,3	22	41,5	37	69,8	0.358
No barrier	4	7,5	12	22,6	16	30,2	
<b>Total</b>	19	35,8	34	64,2	53	100	

Based on table 5, it can be seen that there were 15 respondents with perceived obstacles to taking BGM preventive measures and 4 respondents did not feel obstacles to BGM preventive action. From these results, it can be seen that respondents do not feel obstacles so they do not act to prevent BGM. The results of statistical tests obtained p value of 0.358, which means the p value >  $\alpha$  0.25, then it is not selected to do multiple logistic regression tests and there is no relationship between the obstacles perceived by respondents to preventive measures for children under five BGM.

## DISCUSSION

Perceived vulnerability refers to beliefs about the possibility of acquiring a disease or condition. In order for someone to act to treat or prevent his disease, he must feel that he is susceptible (Susceptibility) to the disease. In this study, a person can be said to have high vulnerability if a person feels that he still has a great chance for his child to experience BGM. This vulnerability is assessed subjectively by each individual, so that each individual will have different beliefs or opinions about the vulnerability he feels. The greater the acceptance of risk, the more likely it is to create behaviors that reduce risk. In this study, the percentage who felt vulnerable was 34%.

Respondents who do not feel vulnerable to BGM think that children are not susceptible to BGM and do not experience diseases caused by BGM. This is because the respondent feels that their child's weight is still normal and their diet is normal. Based on the results of the study, the results of this study indicated that 18.9% of respondents felt vulnerable to BGM and had taken good action in preventing BGM. The results of this study

using multiple logistic regression test results indicate that there is a relationship between the perceived vulnerability of respondents to BGM prevention measures. This is in line with the research of Hayati, M. and Sudiana, I., (2014), that some respondents, namely 95 people (84.1%), have a perception of sufficient vulnerability to the nutritional status of children under five.

The vulnerability felt by respondents to providing food intake to their children according to balanced nutrition, the feeling of experiencing bad nutrition in their children. BGM that causes the widespread of malnutrition is incorrect behavior among the community in selecting and providing food to family members, especially children (Istiany and Rusilanty, 2014).

Calorie needs are included in the very insufficient criteria, then protein needs are included in the less criteria, for fat needs are in the less criteria, and carbohydrate needs are categorized as very less. Unbalanced nutrition causes toddlers to experience BGM, it is recommended for mothers to always monitor the state of the toddler's nutritional status on a regular and scheduled basis (Safitri, Yeni Agus dan Indah, 2016). One of the causes of nutritional problems is a lack of energy protein (KEP), which is low consumption of energy and protein, which includes marasmus, kwashiorkor, or marasmic-kwashiorkor (Istiany and Rusilanty, 2014)

Feelings about the seriousness of contracting the disease or not being treated include evaluation of medical and clinical consequences (for example, death, disability, and pain) and possible social consequences (such as the effects of the condition on work, family life, and social relationships). The combination of vulnerability and severity has been labeled as a perceived threat (Glanz, K., Rimer, 2018). So the higher the seriousness and severity of the risk to be suffered, the greater the need to seek preventive measures. In this study, the severity felt by respondents was the condition of the occurrence of BGM so that the child was affected by malnutrition. In this study, the severity was 45.3%. Respondents who did not feel the severity of BGM thought that children were not susceptible to BGM and did not experience diseases caused by BGM, namely malnutrition. This is because the respondent's child is still normal weight, normal appetite and does not get sick often.

In the logistic regression test results, it was found that the perceived severity variable had no relationship with BGM prevention measures. The results of this study are not in line with the research of Hayati, M. and Sudiana, I., (2014), it is known that 86 people (76.1%) have a perception of sufficient seriousness towards the nutritional status of children under five.

There is no relationship of severity that is felt to this toddler precaution due to the lack of seriousness of the mother to the severity of the toddler if it does not provide good parenting in feeding will experience BGM and then the toddler will experience malnutrition. According to Rizky, Hernawan and Budiastutik, (2015) research results, there is a relationship between protein intake and BGM, because children need high enough protein to support their growth process (Rizky, Hernawan and Budiastutik, 2015).

This perception leads to a change in behavior that will be influenced by the person's beliefs about the perceived benefits of various measures available to reduce the threat of disease (Glanz, K., Rimer, 2018).

Based on the results of the percentage of respondents that the respondents felt that they did not feel the benefit in taking BGM preventive measures was 64.2%. Respondents thought that the parenting style given to their children was good, the children were still normal and not sick without having to attend posyandu activities and giving PMT. So that it is found that the perceived benefits are not related to the preventive measures of BGM. The perception of the benefits of the recommended behavior outweigh all the barriers. The perceived benefits associated with one's perception of the efficacy of an action are suggested to reduce the risk, if there is no relationship then the mother does not have a good perception of the benefits of taking BGM preventive measures (Hayati, M., Sudiana, I., 2014).

The importance of regularly monitoring the growth of toddlers at the posyandu and giving PMT can prevent BGM toddlers, because the Supplementary Food (PMT) given to malnourished toddlers aims to provide high intake, high protein and sufficient vitamins and minerals gradually, in order to achieve optimal nutritional status. and balanced nutrition, an increase in energy and protein intake showed that there were significant differences in the two groups after the intervention was carried out and there was a significant effect on changes in body weight after being given PMT (Iskandar, 2017). Lack of Protein Energy (KEP) in children aged 12-24 months is due to an imbalance between the needs and the nutritional intake received (Ahmad and Rifqi, 2019).

The potential negative aspects of certain health measures perceived barriers can act as barriers to carrying out the recommended behavior. A kind of unconscious, cost-benefit analysis occurs where individuals weigh the benefits of the expected actions against the perceived barriers (Glanz, K., Rimer, 2018). Based on the results of this study, it shows that 69.8% of respondents felt obstacles in taking BGM preventive action but still took good action. However, the results of the multiple logistic regression test showed no relationship with perceived barriers to BGM prevention. This is not in line with the research of Tanjung, Rohmawati and Sofyani, (2017) which shows that 56.9% of respondents perceive a perceived barrier in taking action to prevent malnutrition in children under five. When they perceive obstacles, respondents with strong motivation will take various ways to overcome these obstacles.

Based on the results of cross tabulation, it shows that there is no relationship of perceived encouragement to BGM prevention. Respondents argued that the lack of information on nutritional status and posyandu activities related to the provision of good food intake according to the age of the toddler, so that respondents did not regularly participate in posyandu activities.

The importance of mothers visiting posyandu is in accordance with the results of Fitriani's research (2018) that a mother's visit to the posyandu to find out the development of toddlers will provide the possibility for BGM not to occur in toddlers and mothers who are active in posyandu can prevent an increase in the number of children under five BGM through early detection efforts the nutritional status of toddlers every month by health workers and posyandu cadres in monitoring the nutritional status of children through the KMS book for toddlers (Fitriani, 2018).

Besides that, the poor nutritional status will affect toddlers in the future. Therefore, malnutrition is a matter of concern because it does not only have short-term effects such as the baby's vulnerability to infectious diseases, low survival ability, low IQ so that it affects intelligence, low cognitive abilities and also impacts death in the long term (Rahma and Nadhiroh, 2017).

The cause of the Toddler Under the Red Line is because many toddlers experience malnutrition and then become malnourished because of late handling. The role of the mother is the main role for nutrition problems in children. So that the age factors of relatively young mothers, mother's education, working mothers and mothers' knowledge of nutritional status are very influential in parenting for their children. In Indonesia, both in preventing and overcoming malnutrition events is growth monitoring. This growth monitoring activity is aimed at tackling nutritional problems with regular weighing activities for children aged five years at the *Posyandu*, but overcoming nutrition problems depends on active participation from the public and support from health workers for the importance of participating regularly at the *Posyandu*.

Mothers who are not active in visiting *Posyandu* caused mothers to lack of information about the importance of the nutritional status of children under-five years old. They also do not get support from health workers if mothers have health problems in their toddlers, as well as monitoring the growth who cannot be monitored optimally. (Fitriani, 2018).

The next intervention is the Supplementary Feeding Activity (SFA). This program is a food supplementation program to improve the nutritional status of children who are malnourished. SFA is given for children aged 6-11 months in the form of Complementary Food for Breastmilk /*Makanan Pendamping Air Susu Ibu* (MP-ASI) or blended food. For children aged 1 (Purnama Sari, Laenggeng and Tasya, 2016). 2-59 months, biscuits are given as much as 75 grams/day and milk powder as much as 80 grams/day. Giving SFA must be considered by considering the critical growth period of children (Inayah and Hartono, 2016).

The Nutrition Awareness Family Program/*Program Keluarga Sadar Gizi* (KADARZI) is also a program dealing with nutritional problems with the help of the role of the family of toddlers themselves practicing good nutritional behavior, such as weighing regularly, giving only breast milk to babies from birth to 6 months of age, eat a variety of foods, using iodized salt and nutritional supplement drinks as recommended (Rachmayanti, 2017).

According to research result in Wonokusumo Urban Village Surabaya, regarding the implementation of the KADARZI program has not been maximized because many families do not know and do not understand the existence of the program. So the need for the role of health workers to make home visits to toddlers below the red line or have poor nutritional status to explain information related to KADARZI (Rachmayanti, 2017).

Various malnutrition prevention programs carried out by the government, often experience failure or the program will stop with the cessation of existing funds (Lisang, 2017). This happens because the planning and decision-making process in development programs is often carried out from the top down. Public development program plans are usually made at the central (top) level and implemented by provincial and district agencies. Communities are often included without being given choices and opportunities to provide input. In this vision, the public is placed in a position that needs outside help.

In overcoming the Below Red Line incident, the government is carrying out programs such as growth monitoring, supplementary feeding and KADARZI programs that have not been maximized due to the lack of socialization by health workers and the active role of the Public. Lower-line toddler (Below Red Line) services should be provided in an integrated and comprehensive manner so as to prevent recurring malnutrition and infectious diseases in children. As a promotional service in the form of food education and children's health. Preventive services in the form of notification of underweight children, education of food patterns, weighing, referral to health workers and supplementary feeding. And improvement of curative services (Laurentia, Setiawati, Somasetia and Hilmanto, 2016). Lower-line toddler services not only the role of mothers and midwives, but the need for the support of doctors, specialist doctors for health education, then cadres and districts.

Indonesia is the 17th country out of 117 countries that have complex nutrition problems, stunting, wasting and overweight. To overcome this nutritional problem in 2010 the United Nations launched the Scalling Up

Nutrition (SUN) program, which is a joint effort by the government and the Public to realize a vision of being free of food insecurity and malnutrition (zero hunger and malnutrition).

The program is also known as the First 1000 Days of Life (1000 DoL). Movement carried out by 61 countries in the world with the aim of eliminating various types of malnutrition. SUN is a global effort to strengthen commitments and action plans to accelerate nutrition improvement and also support the Sustainable Development Goals (SDGs) by protecting children's rights to obtain adequate nutrition (Rosha, Sari, P, Amaliah and Utami, 2016).

Just as in India, there is the ICDS (Integrated Child Development Services Scheme) program, which was established in 1975 due to malnutrition in the fifth highest ranked toddler in the world compared to Africa. Almost all half of infant deaths in India are caused by malnutrition (Dixit, Gupta, Dwivedi and Coomar, 2018).

This program provides counseling to mothers regarding awareness of health risks, especially on the nutritional status of children. Emphasizing also in the provision of nutritional supplementation, improvement of environmental hygiene and the practice of feeding children. In toddlers, Below Red Line can be carried out in pharmacological and non-pharmacological handling efforts. So that it is necessary to identify consumption patterns or eating patterns that include type of food, because toddlers who experience Below Red Line, one of which is caused by patterns foster parents are wrong who pay less attention to nutritional intake (Safitri and Darmaning, 2016). The intervention has been running to prevent the occurrence of malnutrition as well as the occurrence of malnutrition, but the lack of Public participation in the program so that the program is not going well.

## CONCLUSION

Health is inseparable from its relationship with socio-economic conditions, physical environment, behavior and individual lifestyles. This relationship provides a holistic and systemic understanding of health. According to research results from several articles, mother's age, occupation, education and mother's knowledge affect parenting patterns on the nutritional status of their children and the incidence of the Below Red Line, including mother's knowledge that affects the nutritional status of toddlers. The high prevalence of malnutrition is also caused by several factors such as lack of antenatal visits, and lack of understanding of existing programs. So the intervention has not gone well. Characteristics of mothers in the working area of the Wonokusumo Health Center, among others, the age of the mother is 21-30 years, most of the mothers work as IRT, most of the mothers have an elementary school education, and the mother's knowledge about nutritional status is mostly adequate. This study shows that the importance of monitoring the growth and development of toddlers at the posyandu and giving PMT can prevent the occurrence of BGM for toddlers, because the Supplementary Feeding (PMT) given to malnourished toddlers aims to provide high intakes, high protein and sufficient vitamins and minerals. gradually, in order to achieve optimal nutritional status and balanced nutrition.

## ACKNOWLEDGEMENT

Thanks are addressed to the Wonokusumo Community Health Center for allowing this research to be conducted in the Wonokusumo Health Center working area.

## REFERENCE

- Ahmad, M. and Rifqi, M. A. (2019) 'Pie Substitusi Tepung Biskuit MP-ASI Kemenkes dan Isolat Protein Kedelai Sebagai Alternatif Pencegahan KEP Pada Anak Usia 12-24 Bulan', *Amerta Nutrition*, 3(4), p. 284. doi: 10.20473/amnt.v3i4.2019.284-290.
- Dinkes Kota Surabaya (2015) *Profil Kesehatan Kota Surabaya*. Surabaya: Profil Kesehatan Kota Surabaya.
- Dinkes Kota Surabaya (2016a) 'Profil kesehatan Dinkes Kota Surabaya', p. 194. Available at: [http://www.depkes.go.id/resources/download/profil/PROFIL\\_KAB\\_KOTA\\_2016/3578\\_Jatim\\_Kota\\_Surabaya\\_2016.pdf](http://www.depkes.go.id/resources/download/profil/PROFIL_KAB_KOTA_2016/3578_Jatim_Kota_Surabaya_2016.pdf).
- Dinkes Kota Surabaya (2016b) *Rencana Strategis Tahun 2016-2021*.
- Dinkes Kota Surabaya (2017) *Profil Kesehatan Kota Surabaya*.
- Dixit, P., Gupta, A., Dwivedi, L. K. and Coomar, D. (2018) 'Impact Evaluation of Integrated Child Development Services in Rural India: Propensity Score Matching Analysis', *SAGE Open*, 8(2). doi: 10.1177/2158244018785713.
- Fitriani, N. (2018a) 'Hubungan Kunjungan Ibu ke Posyandu dengan Jumlah Balita Bawah Garis Merah ( BGM ) di Desa Tente Kecamatan Woha Kabupaten Bima Correlation between Mother ' s Activeness Integrated With Health Service Number Reduction of Toddler Below The Red Line ( BGM ) I', *Jurnal Studi Keislaman dan Ilmu Pendidikan*, 6(1), pp. 70–80.
- Fitriani, N. (2018b) 'Hubungan Kunjungan Ibu ke Posyandu dengan Jumlah Balita Bawah Garis Merah (BGM)



- di Desa Tente Kecamatan Woha Kabupaten Bima', *Palapa: Jurnal Studi Keislaman dan Ilmu Pendidikan*, 6(1), pp. 69–80. doi: 10.36088/palapa.v6i1.59.
- Glanz, K., Rimer, B. K. K. V. (2018) *Health and Health*. Available at: doi: <http://hdl.handle.net/2027/spo.10381607.0007.102>.
- Handayani, R. (2018) 'Faktor-Faktor Yang Berhubungan Dengan Status Gizi Balita', *Jurnal Media Kesehatan*, 8(2), pp. 190–197. doi: 10.33088/jmk.v8i2.283.
- Hayati, M., Sudiana, I., K. (2014) 'Analisis Faktor Orang Tua yang Berhubungan dengan Status Gizi Balita Pendekatan Teori Health Belief Model', *Pedimatern Nursing Journal*, Vol 2, No, pp. 69–73.
- Inayah, M. and Hartono, M. (2016) 'Pengaruh Pemberian Makanan Tambahan Dan Stimulasi Terhadap Pertumbuhan Dan Perkembangan Balita BGM Usia 1-2 Tahun', 02(01), pp. 61–70.
- Iskandar, I. (2017) 'Pengaruh Pemberian Makanan Tambahan Modifikasi Terhadap Status Gizi Balita', *Action: Aceh Nutrition Journal*, 2(2), p. 120. doi: 10.30867/action.v2i2.65.
- Istiany, A. and Rusilanty (2014) *Gizi Terapan, Buku Ajar Ilmu Gizi*. Bandung: PT. Remaja Rosdakarya.
- Kemendes RI (2010) 'Penggunaan Kartu Menuju Sehat (KMS) Bagi Balita', 23(7), pp. 22–23. doi: 10.1108/ijhcqa.2010.06223gab.001.
- Kemendes RI, 2018 (2018) *Profile Kesehatan Indonesia Tahun 2017, Ministry of Health Indonesia*. doi: 10.1002/qj.
- Kementerian Kesehatan RI (2018) 'Laporan Riskesdas 2018', *Laporan Nasional Riskesdas 2018*, 53(9), pp. 154–165. Available at: [http://www.yankes.kemkes.go.id/assets/downloads/PMK No. 57 Tahun 2013 tentang PTRM.pdf](http://www.yankes.kemkes.go.id/assets/downloads/PMK%20No.%2057%20Tahun%202013%20tentang%20PTRM.pdf).
- Larasati, M. D. (2019) 'Status Gizi Balita BGM Berdasarkan Karakteristik Ibu Di Wilayah Kerja Kecamatan Sawah Besar Tahun 2018', *Jurnal JKFT: Universitas Muhammadiyah Tangerang*, 4(1), pp. 77–89. Available at: <http://jurnal.umt.ac.id/index.php/jkft/article/view/2022>.
- Laurentia, L. M., Setiawati, E. P., Somasetia, D. H. and Hilmanto, D. (2016) 'Gambaran Pelayanan Terintegrasi dan Komprehensif pada Balita Bawah Garis Merah di Puskesmas Soreang Illustration of Integrated and Comprehensive Health Services for Under', 2, pp. 192–199.
- Lisang, A. G. (2017) 'Implementasi Program Penanggulangan Gizi Buruk Pada Anak Bawah Lima Tahun Pada Dinas Kesehatan', *e Jurnal Katalogis*, 5(2), pp. 14–25.
- Masturoh, Imas., T. Nauri, A. (2018) *Metodologi Penelitian Kesehatan*.
- Pemerintah Kota and Surabaya (2021) 'Pemerintah Kota Surabaya Rencana Strategis ( Renstra ) Tahun 2016-2021'.
- Purnama Sari, D., Laenggeng, A. H. and Tasya, Z. (2016) 'Hubungan Tingkat Pengetahuan Ibu Dan Status Ekonomi Keluarga Dengan Kejadian Anak Balita Bawah Garis Merah (Bgm) Di Wilayah Kerja Puskesmas Nokilalaki'.
- Puspasari, N. and Andriani, M. (2017) 'Hubungan Pengetahuan Ibu tentang Gizi dan Asupan Makan Balita dengan Status Gizi Balita ( BB / U ) Usia 12-24 Bulan Association Mother ' s Nutrition Knowledge and Toddler ' s Nutrition Intake with Toddler ' s Nutritional Status ( WAZ ) at the Age 12 -24 M', *Amerta Nutr*, 3(2), pp. 369–378. doi: 10.20473/amnt.v1.i4.2017.369-378.
- Rachmayanti, R. D. (2017) 'Pengenalan Program Kadarzi Di Kelurahan', (2018), pp. 176–182. doi: 10.20473/mgi.v13i2.176.
- Rahma, A. C. and Nadhiroh, S. R. (2017) 'Perbedaan Sosial Ekonomi Dan Pengetahuan Gizi Ibu Balita Gizi Kurang Dan Gizi Normal', *Media Gizi Indonesia*, 11(1), p. 55. doi: 10.20473/mgi.v11i1.55-60.
- Rahmatillah, D. K. (2018) 'Hubungan Pengetahuan Sikap dan Tindakan terhadap Status Gizi', *Amerta Nutrition*, p. 106. doi: 10.20473/amnt.v2i1.2018.106-112.
- Rizky, A., Hernawan, A. and Budiastutik, I. (2015) 'Correlation of eating pattern, exclusive breastfeeding, accination, health check routineness and the incidence of underweight children at work area of puskesmas simpang empat kayu lapis sekadau', pp. 22–29.
- Rosha, B. C., Sari, K., P, I. Y. S., Amaliah, N. and Utami, N. (2016) 'Peran Intervensi Gizi Spesifik dan Sensitif dalam Perbaikan Masalah Gizi Balita di Kota Bogor', *Buletin Penelitian Kesehatan*, 44(2), pp. 127–138. doi: 10.22435/bpk.v44i2.5456.127-138.
- Safitri, Yeni Agus dan Indah, P. D. (2016) 'Pola Makan Battita "Z" Dengan Status Gizi BGM (Bawah Garis Merah) Di Puskesmas Ketawang Kabupaten Malang', *Hesrti Wira Sakti*, 4(1), pp. 94–100. Available at: <https://www.semanticscholar.org/paper/Pola-Makan-Batita>.
- Safitri, Y. and Darmaning, I. (2016) 'Pola Makan Batita "Z" Dengan Status Gizi Bgm (Bawah Garis Merah) Di Puskesmas Ketawang Kabupaten Malang', *Jurnal Hesti Wira Sakti*, 4(1), pp. 94–100.
- Tanjung, I. C. D., Rohmawati, L. and Sofyani, S. (2017) 'Cakupan Imunisasi Dasar Lengkap dan Faktor yang Memengaruhi', *Sari Pediatri*, 19(2), p. 86. doi: 10.14238/sp19.2.2017.86-90.