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Nutritional Status Screening and Hand Hygiene Health Education for Toddlers at Imanda Bandung Preschool Play Group

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Abstract

According to WHO, UNICEF, and the World Bank in 2021, stunting is the most common type of malnutrition among toddlers, namely 144 million stunted toddlers in the world and 53% are in Asia. 2018 Basic Health Research Report, West Java, the reason for not weighing children aged 0 – 59 months in the last 12 months was because parents were busy (26.2%) and forgot and/or didn't know their schedule (18.3%). Referring to this phenomenon, it is important to carry out height and weight checks at school. The community service activities carried out by Universitas Padjadjaran Midwifery Program and The Garuda Community Health Center aim to assess nutritional status and enhance toddlers' knowledge of proper hand-washing techniques at The Imanda Bandung Preschool Play Group. A total of ninety-nine toddlers had their height and weight measured at Imanda Bandung Preschool Play Group. The data obtained was analyzed using the WHO recommended z-scoore chart based on age and gender. Of the ninety-nine toddlers aged under five years 28.28% and aged over five years 71.72%. Ages under five years old have a normal nutritional status of 82.15%. Ages over five years have normal nutrition 67.60%, malnutrition 5.63%, and obesity 5.63%. Children with poor nutritional status and obesity are referred. Hand washing health education was followed by toddlers enthusiastically. Monitoring children's growth and development tends to decrease with age, leading to a lack of early detection of nutritional problems. Routine height and weight checks, including at school, are very important to determine a child's nutritional status.

A. Introduction

Stunting is a chronic nutritional problem that has an impact on children's growth and development, characterized by a height that is lower than the standard determined by age. Data published by WHO, UNICEF, and the World Bank in 2021, shows that stunting is the type of malnutrition that is most often found in children under five, namely 144 million children under five are stunted in the world and 53% are in Asia (IDAI, 2023). The impact of stunting is the risk of decreased cognitive function, non-infectious diseases or degerative diseases as diabetes, coronary heart disease, and obesity. In the long term, there could be a decline in the quality of human resources so the quality of a country could be threatened with decline. Indonesia, in 2022, is the 4th largest country contributing to stunting in children under five after India, Nigeria, and Pakistan (IDAI, 2023).

2018 Basic Health Research Report for West Java Province, as many as 87.2% of children under two years old are well-nourished, and the rest need intervention so that their nutritional status becomes good

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(Riskesdas, 2018). A study conducted by Wicaksono, et al. Of 76,165 children aged 0 - 4 years and living in 66,917 households in 33 provinces, 36.7% of children experienced stunting (Wicaksono & Harsanti, 2020). There are many causes of stunting, in Indonesia. Most of them are caused by access to nutritious food, the incidence of low birth weight babies, low levels of education, and parental income (Insani, 2020).

Stunting screening can be done by checking growth in the form of regularly measuring the child's weight and height. Based on the 2018 National Basic Health Research Report, growth monitoring in the last 12 months in children aged 0 – 59 months, the older the child gets, the less growth monitoring there is. The report showed that those aged 6 – 11 months (91.3%) had the most weight measurements and height or body length measurements (59.0%). In contrast, children aged 48 - 59 months have the most body weight measurements (70.1%) and the most body length or height (47.4%) (Kemenkes, 2018). Based on this data, it can be interpreted that there are children whose growth is not monitored. Data in Riskesdas 2018, in West Java Province, the reasons for not weighing children aged 0 – 59 months in the last 12 months were parents who were busy (26.2%) and forgot and/or didn't know their schedule (18.3%) (Riskesdas, 2018). Research conducted by Supadmi, et al showed that children aged 12–23 months whose mothers work are more likely to suffer from stunting than children aged <12 months (Supadmi et al., 2024).

Routine growth and development checks can detect stunting. Apart from carrying out routine growth and development checks, other prevention efforts can be done by providing health education from an early age. The results of research conducted by Nurbaety, et al found that there was a significant relationship between the implementation of clean and healthy living behavior and the prevalence of stunting. Therefore, it is important to carry out health education from an early age. A study conducted by Duarte, et al shows that providing health education to toddlers by teachers as caregivers who have received structured training can encourage healthy socio-emotional development of toddlers (Duarte et al., 2024). Toddler involvement in growth examination activities and providing health education about hand washing are structured activities carried out based on theory and concepts. Sanitation hygiene became one factor that influenced the nutritional status of children. Results of Millward showed poor sanitation and hygiene will increase the risk of infections, potentially harming children's health (Millward, 2017).

Health education for toddlers and toddlers in schools as knowledge and insight so they can practice healthy living as early as possible. Referring to the phenomenon of working parents and based on the results of a study conducted by Kusuma, et al, it shows that the characteristics of parents, namely mothers, are 50% working status and 50% as housewives (Kusuma et al., 2023). So not all children's health education comes from parents. Therefore, the support that needs to be provided is strengthening knowledge and insight through health education carried out by health professionals.

It is known that nutrition is the main factor that supports stunting, there are also other supporting factors such as eating practices and hygiene. A study showed that 26% of stunted toddlers had poor feeding practices and 16% of stunted toddlers had inadequate hygiene and environmental sanitation practices, and there was a significant relationship between eating habits, hygiene and environmental sanitation (Ningsih et al., 2023). Referring to this data, handwashing health education is important to give to toddlers.

It cannot be denied that the fact that some parents work means that there are no regular checks on their children's growth and development. There are still parents who forget and don't even know their schedule. For working parents, their children are generally enrolled in school or kindergarten or play groups. One of the Health Service's programs is to check the growth and development of toddlers and toddlers in the school environment. The Health Service, through the community health center, collaborates with schools in the local health center's work area to carry out routine inspections. These routine checks can be used to provide health education. However, there are so many schools and various programs that have to be run by the Community Health Center, so they cannot maximize the time for conducting health education apart from checking the growth of toddlers.

Various forms of community service activities have been carried out to assist government programs in an effort to reduce the incidence of stunting. In this community service activity, apart from helping with government programs, other support is providing health education to toddlers, using methods adapted to toddler's age.

One of the schools in Bandung City is the Imanda Play Group. Imanda's Play Group has 106 toddlers divided into 10 study groups. The number of teachers teaching is 9 people with 1 principal and 1 administrative employee. Imanda's Play Group, which is located at Jl. North Stop VI Number 1, Andir District, Bandung City, under the Garuda Health Center area, Bandung City, is the target for routine toddler

checks, where this community service aims to determine the nutritional status and increase toddlers' knowledge about good hand-washing practices.

B. Methods

This community service is carried out by measuring the height and weight of toddlers in Imanda's playgroup. The recipient subjects of community service activities were all toddlers who were present during community service activities with a total of 99 toddlers.

Assessment of nutritional status uses the WHO weight-for-height chart with classification according to age and gender. Meanwhile, to help hand washing health education, direct hand washing practice is carried out

The data collection technique was carried out using a height measuring device (microtoise) and a weight measuring device (body scales) carried by the team. Toddlers have their weight and height measured by toddlers. Then the data for each toddler is searched for the z-score value of body weight for height according to WHO to determine nutritional status. Data on toddler's characteristics in the form of name, place, and date of birth were obtained from the teacher. This activity was carried out on Tuesday 24 September 2024 at the Imanda Playgroup.

The data analysis used is univariate, namely the frequency distribution of toddler characteristics based on age under and over five years and gender. Other data is in the form of frequency distribution of toddler's nutritional status.

Figure 1. Teach how to wash hands properly

Figure 2. Practise Hand washing

C. Results and Discussion

Based on the results of community service activities at Kober Imanda totaling 99 toddlers, in Table 1, the characteristics of Kober Imanda toddlers whose height and weight were measured:

Table 1. Characteristic Toddler's

No.	Characteristic	Male	Female	Total
1	Under Five Years Old	13	15	28 (28,28%)
2	Over Five Years Old	41	30	71 (71,72%)
	Total	54 (54,54%)	45 (45,45%)	99 (100%)

The results of measuring height and weight and then calculating z-scoore to assess nutritional status can be seen in table 2 and table 3 as follows:

Table 2. Nutritional Status Toddler Under Five Years Old

No.	Nutritional Status	Under Five Years Old
1	Malnutrition (< -3 SD)	-
2	Under nutrition (-3 SD - - 2 SD)	1 (3,57%)
3	Normal (-2 SD - +2 SD)	23 (82,15%)
4	Over nutrition (> +2 SD)	4 (14,28%)
	Total	28 (100%)

Table 3. Nutritional Status Toddler Over Five Years Old

No.	Nytritional Status	Over Five Years Old
1	Mal nutrition (< -3 SD)	4 (5,63%)
2	Under nutrition (-3 SD - - 2 SD)	9 (12,68%)
3	Normal (-2 SD - +1 SD)	48 (67,60%)
4	Over Nutrition (> +1 SD)	6 (8,46%)
5	Obesity (> + 2 SD)	4 (5,63%)
	Jumlah	71 (100%)

Referring to table 1, there were 99 toddlers whose height and weight were measured, with 28.28% aged under five years and 71.72% aged over five years. Based on gender, it is 54.54% male and 45.45% female. The process of growth and development starting from pregnancy until the age of 3 years significantly influences health, learning, and productivity as well as social and emotional well-being. This impact continues from children, adolescents to adults, interventions to build abilities from an early age can have a lifelong impact and impact the next generation (Tamburlini, 2018). According to a study conducted by Supadmi, et al founded that boys children under two years whose mothers work were more likely to experience stunting than girls (Supadmi et al., 2024). This finding was in line with a recent systematic review and meta-analysis on sex differences in the undernutrition of children, which reported that boys are more likely to suffer from stunting than girls (Thurstans et al., 2020). Two studies exploring concurrent wasting and stunting found it to be a condition that affects children below 30 months more than it does older children, and found that sex ratios in undernourished children change with age, with a higher susceptibility for boys up to 30 months that then disappeared (Thurstans et al., 2020; Myatt et al., 2018). Alongside other studies by Schoenbuchner, et al. they suggest that sex hormones, specifically testosterone, luteinising hormone and follicle- stimulating hormones might play a role in this (Myatt et al., 2018). A study from Brazil showed a high preva- lence of undernutrition (low weigh-for-age and/or low height-for-age) in children (30%) with a shift towards overweight and obesity (high weight-for-height and BMI) among adolescents (21% in girls and 8.8% in boys) and adults (14.6%). In addition, stunting was associated with overweight in children of four nations that are undergoing the nutrition transition (Soliman et al., 2021).

In table 2, the nutritional status of those under five years old is normal at 82.15%, undernourished at 3.57%, and overnourished at 14.28%. Even though this data showed the most normal nutritional conditions in the group of toddlers who were measured, there are still undernourished and overnourished statuses. In low, middle, and very poor-income countries, there are around 250 million children under 5 years old (43% of all children under 5 years old in these countries) at risk of experiencing less than optimal development and stunted growth (Tamburlini, 2018). According to a study conducted by Laily, et al, stunting has a significant relationship with children's growth and development, namely fine motor skills, gross motor skills, language

and communication, as well as social and emotional (Laily & Indarjo, 2023). The results of research conducted by Kurniawan, et al found 3 factors in the occurrence of stunting in children under five years old, namely maternal factors, home environment and feeding and breastfeeding practices (Kurniadi & Mulyono, 2019). The influence of the home environment includes the ability of parents to care for children. Washing hands well and correctly is part of a parenting style in caring for children. Hand hygiene is a supporting factor for maximum nutritional intake. A study conducted by Ningsih, et al. showed that there were a significant relationship between eating habits, environmental hygiene and sanitation, and the prevalence of stunting in children aged 24-59 months (Ningsih et al., 2023). Research conducted by Zewdu and Hadiso shows that the amount of stunting and wasting is lower in working mothers compared to non-working mothers (Zewdu & Handiso, 2020).

In table 3, the highest nutritional status for those aged over five years is 67.60%, there is 5.63% malnutrition, 12.68% undernutrition, 8.46% overnutrition and 5.63% obesity. This data showed that there are still children over five years old who need intervention to ensure their nutritional status is normal. A narrative study conducted by Azhari, et al related to intervention and prevention of stunting in the form of nutrition education, social protection interventions, maternal nutritional literacy interventions (Azhari & Mahwati, 2022). Community service activities carried out by Herawati, et al. showed that there was an increase in mothers' knowledge of counseling and socialization of early detection of child growth and development (Herawati et al., 2024). This can be an effort to prevent stunting in children. The efforts made by the Community Health Center for children with poor nutritional status and obesity receive special attention. Teachers and parents are given information about the child's condition and a referral is planned at an advanced level. A common theme throughout the analyses presented here is the greater susceptibility among boys than girls to becoming wasted or stunted and becoming both concurrently wasted and stunted. This observation is consistent with data from other low- income populations where boys typically exhibit higher rates of undernutrition than girls. In a meta-analysis of 16 Demographic and Health Surveys from sub-Saharan Africa, by Myatt et al. demonstrated that boys aged <5 y are more likely to become stunted than girls, with evidence to suggest that this sex difference was more pronounced in the lowest socioeconomic groups (Myatt et al., 2018).

This community service activity also provides health education about proper and correct hand washing for toddlers. Health education carried out by directly practicing hand washing does not provide knowledge, but also direct practice provides experience for toddlers. Toddlers' enthusiasm in practicing hand washing showed the success of the health education provided. The educational method is carried out by telling stories and playing games, especially for toddlers aged less than 7 years. In line with the community service activities carried out by Hasibuan, et al., the success of community service in the form of counseling and practicing clean and healthy living behavior is marked by the enthusiasm of toddlers who take part in these activities (Hasibuan et al., 2023). It is hoped that through direct practice toddlers will be able to remember the steps for washing hands properly and correctly and apply them in everyday life. A study conducted by Adames, et al found that families with poor sanitation conditions and poor hygiene practices had a significant relationship to stunting (Ademas et al., 2021). As nurturing care is so embedded within the lives of each family and child, communities themselves can play a major role in creating enabling environments that benefit both caregivers and young children (Daelmans et al., 2021).

Referring to the results of community service activities carried out, examination of growth and development in children under and over five years of age provides information on the current nutritional status phenomenon. Early health education regarding good and correct hand washing behavior can be provided through education in schools, preschools, play group.

This community service has the limitation of not measuring children's development in relation to the equipment needed and activity time at Kober Imanda which is not met. Therefore, suggestions for further community service activities are important to measure children's development.

D. Conclusion

Community service activities in Kober Imanda, Bandung City, are going well. The participants were ninety-nine Kober Imanda toddlers. Most of them had normal nutritional status. Referrals are made to children with poor nutritional status and obesity. Hand washing health education was followed by toddlers enthusiastically. This strengthens knowledge and insight into healthy living behavior from an early age.

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