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## **THE RELATIONSHIP PERSONAL HYGIENE AND SANITATION ENVIRONMENTAL ON NUTRITIONAL STATUS IN TODDLER AT BULIANG DISTRICT**

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**Abstract:** Nutritional status at the Batu Aji Community Health Center is the first problem in Batam City and Buliang Village is the highest among other districts. This research aims to determine the relationship between personal hygiene and environmental sanitation on the nutritional status of toddlers in Buliang Village, Batam City in 2023. This type of research is used is quantitative with a cross sectional research design. The subjects in this research were mothers with toddlers aged 0-59 months who lived in Buliang Village, Batam City. The sampling technique used was Cluster Random Sampling with chi-square test analysis . The results of the chi square test data analysis show that there is a relationship between personal hygiene and nutritional status in toddlers (p value = 0.022), environmental sanitation and nutritional status in toddlers (p value = 0.032). The conclusion from this research is that there is a relationship between personal hygiene and environmental sanitation on the nutritional status of toddlers. It is hoped that the community will be more disciplined in paying attention to toddlers' personal hygiene and environmental sanitation so that they pay attention to fulfilling the environmental sanitation requirements of SPALs and waste disposal sites.

**Keywords:** Nutritional Status, Personal Hygiene, Environmental Sanitation, Toddlers.

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### **1. Introduction**

Based on 2018 Riskesdas data, nutritional status for malnutrition in Indonesia has a prevalence of 17.7%, nutritional status for stunting has a prevalence of 30.8% and nutritional status for undernutrition is 10.2% (Ministry of Health, 2018).

Based on SSGI data for 2022, the prevalence of toddlers in the Riau Islands province is underweight is 14.3%, for stunting it is 15.4% and for wasting 8.4% (Ministry of Health, 2022).

According to data from the Batam City Health Service, nutritional status for the last 3 years, underweight in 2020 was 5.04%, in 2021 it was 2.38%, and in 2022 it was 3.75%. Nutritional status for stunting in 2020 is 7.12%, in 2021 is 2.23%, in 2022 it is 2.42%. Nutritional status for wasting in 2020 is 4.14%, in 2021 it is 2.56%, in 2022 it is 2.93% (Profile of Batam City Health Office, 2022).

According to the results of the nutritional status of toddlers in 2022 at the Batu Aji Community Health Center, the nutritional cases in Buliang Village which became the first problem were underweight cases in toddlers with a total of 278 toddlers and this was the highest in Batam City (Batu Aji Community Health Center Nutrition Status Data, 2022).

Matters relating to personal hygiene and environmental sanitation are very important for overcome the problem of malnutrition, such as underweight and stunting, The level of childhood infections such as diarrhea and Acute Respiratory Infection (ARI) and the lack of the habit of washing hands with soap properly can also increase the risk of diarrhea. Small mistakes such as open defecation can have a big impact on the nation's health, nutritional status and economy (Aisah et al., 2019).

Based on observation results on March 8 2023 in Buliang Village with a mother who had a toddler aged 0-60 months, it was discovered that in several houses there were trash cans that were not closed, wastewater drains that were open and stagnant.

Based on the results of interviews on March 17 2023 in Buliang Village with toddlers who were underweight, problems were found in personal hygiene is still not good for toddlers, such as clean nails, mouth and teeth, while environmental sanitation has no ventilation in toilets, open trash cans, open Wastewater Management System and water reservoirs that are rarely drained. Based on the results of interviews with community health center cadres, the factors that influence nutritional status rise and fall are because toddlers experience weight loss and gain very easily which can affect the nutritional status of toddlers due to several factors, including personal hygiene for toddlers and environmental sanitation in the place occupied by toddlers.

The limitations of this research are seen in the suitability of the problems observed by asking questions and looking at personal hygiene in toddlers and environmental sanitation in toddlers' homes. Based on the description above, researchers are interested in conducting this research because cases of underweight nutritional status in Buliang Village are quite high. Therefore, the researchers took the title "The Relationship between Personal Hygiene and Environmental Sanitation on the Nutritional Status of Toddlers in Buliang Village".

## **2. Materials and Methods**

This research is a type of quantitative research with a cross sectional research design. The location of this research is Buliang Village, Batam City. This research began in March-August 2023 starting from research planning, research implementation to preparing research reports. The population in this study was 2,206 toddlers. The sampling technique used is cluster random sampling.

Quantitative data is the type of data used in this research. Regarding personal hygiene and environmental sanitation on the nutritional status of toddlers, data was obtained by conducting interviews using questionnaires and observations using checklist sheets and measuring the toddlers' weight directly. The analysis used in this research is univariate analysis including personal hygiene, environmental sanitation and nutritional status, bivariate analysis includes determining the relationship between personal hygiene on nutritional status, the relationship between environmental sanitation and nutritional status and determining the correlation coefficient between personal hygiene and environmental sanitation on nutritional status. Chi-square and correlation coefficients were used in the bivariate analysis of this study. A computer program was used to carry out the test, at a 95% confidence level with a p-value  $\leq 0.05$ .

### 3. Results and Discussion

#### 3.1 The Relationship between Personal Hygiene and Nutritional Status in Toddlers

**Table 1.** The Relationship between Personal Hygiene and Nutritional Status in Toddlers

Personal Hygiene	Nutritional Status						Total	P-Value	
	Under Weight		Normal		Possible risk of overweight				
	n	%	n	%	n	%			
Good	5	9,8	34	66,7	12	23,5	51	100	0,022
Not Good	11	34,4	16	50,0	5	15,6	32	100	
Total	16	19,3	50	60,2	17	20,5	83	100	

Based on table 1. above it is known that the results of research conducted on 83 respondents with good personal hygiene category with a total of 51 toddlers (100%), consisting of 5 toddlers (9.8%) were underweight, 34 toddlers (66.7%) have normal weight and 12 toddlers (23.5%) were at risk of being overweight. Respondents with not good personal hygiene were 32 (100%), consisting of 11 toddlers (34.4%) were underweight, 16 toddlers (50.0%) have normal weight and 5 toddlers (15.6%) were at risk of being overweight.

Based on the results of the chi-square test, p value = 0.022 ( $p < 0.05$ ), meaning that  $H_0$  is accepted, it can be concluded that there is a relationship between personal hygiene and nutritional status in toddlers at Buliang Village.

#### 3.2 The Relationship between Environmental Sanitation and Nutritional Status in Toddlers

**Table 2.** The Relationship between Environmental Sanitation and Nutritional Status in Toddlers

Environmental Sanitation	Nutritional Status						Total	P-Value	
	Under Weight		Normal		Possible risk of overweight				
	n	%	n	%	n	%			
Healthy	6	11,1	35	64,8	13	24,1	54	100	0,032
Not Healthy	10	34,5	15	51,7	4	13,8	29	100	
Total	16	19,3	50	60,2	17	20,5	83	100	

Based on table 2. above it is known that the results of research conducted on 83 respondents with environmental sanitation in the healthy category with a total of 54 toddlers (100%), consisting of 6 toddlers (11.1%) were underweight, 35 toddlers (64.8%) have normal weight and 13 toddlers (24.1%) were at risk of being overweight. Respondents with unhealthy environmental sanitation were 29 (100%), consisting of 10 toddlers (34.5%) were underweight, 15 toddlers (51.7%) were normal weight and 4 toddlers (13.8%) were at risk of overweight.

Based on the results of the chi-square test, p value = 0.032 ( $p < 0.05$ ), meaning that  $H_0$  is accepted, it can be concluded that there is a relationship between personal hygiene and nutritional status in toddlers in Buliang Village.

### 3.3 Correlation Coefficient of Personal Hygiene and Environmental Sanitation on Nutritional Status of Toddlers

**Table 3.** Correlation Coefficient

Model	R	Sig.F
1	0.334 <sup>a</sup>	0.009

Based on table 3. Above, it is known that the value is significant is  $<0.009$ , so it is said that the correlation between the variables and the R value = 0.334, which means that there is a low relationship between the variables of personal hygiene and environmental sanitation on nutritional status in Buliang Village.

## 4. Conclusion

The conclusions that can be drawn from the research entitled The Relationship between Personal Hygiene and Environmental Sanitation and the Nutritional Status in Toddlers at Buliang Village, Batam City in 2023 are as follows:

- There is a relationship between personal hygiene and nutritional status with P value = 0.022.
- There is a relationship between environmental sanitation and nutritional status with p value = 0.032.
- There is a significant correlation between variables with sig F  $< 0.009$  dan nilai R = 0.334 0.009 and R value = 0.334, which means there is a low relationship between the variables of personal hygiene and environmental sanitation on nutritional status.

## Acknowledgements

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## Conflict of Interest

There is no conflict of interest regarding the publication of this article.

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