

The Relationship Between Utilization of Health Service Center (*Posyandu*) and the Nutritional Status of Infants during the Pandemic

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ABSTRACT

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The aim of this research is to investigate the relationship between the utilization of posyandu and the nutritional status of toddlers during the pandemic in Muneng Village, Candirotto Sub-district, Temanggung Regency, Central Java. The design of this research is cross-sectional. The sample taken is 59 toddlers using total sampling technique. The data were analyzed with a Chi Square test at 95% significance level. The results showed that 56 respondents (95%) utilized posyandu more than 3 times, and there were 3 respondents (27.8%) who utilized it less than 3 times. The nutritional status of the toddlers showed that most of the respondents had a good nutritional status, with 53 respondents (89.8%), while 6 respondents (10.2%) had a poor nutritional status. There was a relationship between the utilization of posyandu and the nutritional status of toddlers during the pandemic. The conclusion of this research is that posyandu activities are crucial in controlling the development of toddlers, especially in terms of their nutritional status. The recommendation is for mothers to be more active in utilizing posyandu activities.

Keywords

COVID-19

Health Service Center

Infants

Nutrition

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Introduction

The COVID-19 pandemic has caused a decline in the number of patients seeking essential healthcare services, both in low, middle, and high-income countries. This is largely due to social restrictions, public concern, and fear of infection [1]. Essential healthcare services include basic routine treatments for patients with tuberculosis, HIV, chronic diseases such as diabetes and hypertension, immunization, maternal and infant check-ups [2]. The toddler stage is a critical period of growth and development. This stage is also referred to as the golden age, where the formation of thinking, speaking, and intense intellectual growth, and the development of the five senses begin to take place [3]. Nutritional intake plays a crucial role in supporting a child's growth and development [4].

Deficiencies in nutrition during childhood can result in negative effects, such as slow physical growth, susceptibility to illness, decreased intelligence, and impaired mental development. This can also affect the child's school performance, causing them to struggle academically due to their impaired intelligence [5]. The causes of malnutrition are influenced by two main factors, direct and indirect factors. Direct causes include dietary intake and infection, while indirect causes include household food security, caregiving patterns, inadequate health and environmental sanitation. Currently, there are 3.5 million child deaths under the age of five due to malnutrition worldwide [6].

To produce an optimal generation of people, optimal human development is necessary. Human development is essentially about providing people with the right entitlements and ensuring social protection to achieve a dignified life. Efforts in human development must be prioritized from the start, from pregnant mothers, infants who are breastfed and immunized, to the elderly [7]. In light of the disparity in nutritional status among toddlers in Indonesia, the government is trying to improve this by providing healthcare services through integrated service centers, also known as Posyandu [8]. Posyandu is a form of active community participation in improving the health of the local community. It is driven by community health workers and supported by local health teams from the local health center. The presence of Posyandu in Indonesia has made a significant contribution to achieving health development [9]. This study aims to assess the role of posyandu in improving the nutritional status of toddlers in Indonesia.

Methods

Method for Analytical Cross-Sectional Study of Utilization of Posyandu and Nutritional Status of Under-Five Children in Puskesmas Candiroto. This study is an analytical cross-sectional research with a population of under-five children aged 2-5 years in Desa Muneng,

Candiroto, with a total of 59 respondents in June. The study aims to observe the utilization of posyandu and the nutritional status of under-five children and to find the correlation between these two variables. Total sampling method is used in this study where all 59 respondents are included in the sample. Secondary data is collected from the Maternal and Child Health (*Kesehatan Ibu dan Anak* or KIA) book and cohort. Data Analysis used univariate and bivariate analysis using chi-square test will be used for data analysis. The study will be conducted following the ethical principles of confidentiality, anonymity, and informed consent. The study is expected to provide insights into the utilization of posyandu and the nutritional status of under-five children in Puskesmas Candiroto and to determine the correlation between the two variables. The results of the study will be useful for health policies and programs aimed at improving the health of under-five children in the region.

Results

Desa Muneng is one of the villages in the working area of Puskesmas Candiroto (a public health center), with an area of 5,994 km² and an elevation of 861 m above sea level. The average temperature in the village ranges from 18-29°C, with an average rainfall of 22 mm per year. Desa Muneng is located in the Candiroto sub-district, north of the capital of Temanggung Regency (Central Java Province, Indonesia), about 30 km from the capital. The population of Desa Muneng in the Candiroto sub-district of Temanggung Regency consists of 7 hamlets, 7 RW, and 14 RT. The population data was obtained from the Population Office of Temanggung Regency, which was 2,029 people with 135 toddlers. All areas in Desa Muneng can be reached by both four-wheeled and two-wheeled vehicles, consisting of the hamlets of Candisari, Klotok, Kwarasan, Muneng, Peron, and Tiparan. There is a health facility in Desa Muneng, including 1 Polindes, 7 Posyandu, 36 health cadres, and 1 independent midwife practice.

A. The Utilization of Posyandu during the Pandemic

Based on the results of the research, it shows that most of the respondents regularly use the posyandu, marked by 56 respondents (95%) and 3 respondents (5%) from all toddlers who did not utilize the posyandu by not coming regularly to the posyandu. At the end of the pandemic, the number of toddlers visiting the posyandu increased, this can be due to parents wanting to ensure their toddlers' health, growth, and development. It was found that many parents are no longer concerned about bringing their children to public health facilities, such as Posyandu. The Temanggung Regency government at the beginning of 2022 allowed posyandu services to be opened with the condition of using masks and following Covid-19 protocols. In terms of participation in the posyandu, generally mothers who have toddlers in the area regularly bring their toddlers to the posyandu, but there are still some mothers who are reluctant to use the posyandu. In this research, there are still toddlers who do not visit the

Posyandu regularly every month. Mothers not bringing their children to the Posyandu can be due to several problems with the health facilities available at the Posyandu and the lack of activities at the health center, so the mothers are not interested in bringing their children to the posyandu [10].

A good understanding of Posyandu by mothers of toddlers is the main thing to improve the health level of toddlers and can create a positive behavior of mothers towards Posyandu, so that mothers are willing to be present at Posyandu. The presence of mothers of toddlers greatly affects the improvement of the health of mothers and toddlers. The attitude of mothers affects the utilization of Posyandu to monitor the growth and development of the child [11]. The presence of the Posyandu cadre is also very influential, such as the cadre who prioritizes their family over the regular monthly posyandu weighing schedule. This is because Posyandu cadres are voluntary, so there is no guarantee that the cadres will always perform their duties and roles well in implementing the Posyandu program [12].

The role of the cadre is to prepare for the implementation of Posyandu activities; to disseminate information about the opening days of Posyandu; to distribute tasks among cadres; to implement the main activities of Posyandu such as weighing toddlers and providing services after the opening day of Posyandu such as visiting homes and encouraging mothers of toddlers to come to Posyandu. This is in line with previous research conducted by Ref. [13] which showed that there is a relationship between family support and mothers' visits to Posyandu, there is a relationship between the role of the cadre and mothers' visits to Posyandu, and there is a relationship between mothers' employment and their visits to Posyandu.

B. The Nutrition Status of Toddlers during the Pandemic

The nutrition status of toddlers during the Covid 19 pandemic is mostly good. Factors that affect good nutrition in toddlers include the provision of appropriate complementary foods, high family income levels, good health maintenance with a nutritious diet, and a clean living behavior. Good nutrition in toddlers is supported by the adequate availability of nutrients. Nutrients are essential in regulating various body functions such as immune system and cognitive functions. This study still found 6 toddlers (10.2%) with malnutrition. Direct causes of malnutrition in toddlers are due to insufficient food consumption, while indirect factors are low knowledge of health among mothers, low socio-economic status, inadequate food availability at the family level, poor eating patterns, and difficulty accessing health services [14][15].

Malnutrition in toddlers is directly caused by a lack of balanced and nutritious food intake. A varied diet is also good for improving the nutritional status of toddlers because the body

needs good nutrition for development, especially during the toddler stage. Toddlers with malnutrition but good utilization of health services can be influenced by psychological, health, and social factors of the child. In addition, the environment and family attitudes are also very important in fulfilling toddler nutrition. The cause of malnutrition in Muneng Village is due to a lack of knowledge among mothers about healthy and balanced nutrition. To obtain all information about toddler health, the monthly health services (posyandu) can be utilized. This is supported by previous research conducted by Ref. [16] that there is a relationship between the knowledge of toddler mothers, attitude of toddler mothers, role of health workers, and role of health volunteers towards the utilization of health services.

C. The Relationship between the Utilization of Posyandu and the Nutritional Status

The relationship between the utilization of Posyandu and the nutritional status of toddlers during the pandemic in the village of Muneng was analyzed using the Chi-Square statistical test at a significance level of $\alpha=0.05$ or p value <0.05 . The results showed that there was 1 toddler (1.69%) who did not utilize Posyandu and had a good nutritional status, while 2 toddlers (3.39%) did not utilize Posyandu and had a poor nutritional status. On the other hand, 52 toddlers (88.14%) utilized Posyandu and had a good nutritional status, and 4 toddlers (6.78%) utilized Posyandu but had a poor nutritional status. The role of mothers in fulfilling the nutritional needs of toddlers is very important compared to the role of Posyandu cadres and health workers. This has triggered the mothers' own activity to participate actively in the utilization of Posyandu for monitoring the nutrition of their toddlers.

Toddlers who have a poor nutritional status but good utilization of Posyandu can be influenced by psychological, health, and social conditions of the child. In addition, the environment and family attitude are also very important in fulfilling the nutrition of the toddler. According to the researcher, there are several factors that can influence the nutritional status of a toddler. The role of parents is very important in the growth and development of the toddler. Through Posyandu, parents will be aware of the growth and development of their toddler. This is in line with previous research conducted by Ref. [17] that there is a relationship between the mother's attitude and the mother's activity of visiting the toddler to Posyandu in the village of Sumber Datar under the jurisdiction of Sungai Keranji Health Center in 2016.

Conclusion

Based on the research and discussion, it can be concluded that the utilization of the posyandu (health clinic) shows results where the majority of the respondents come to the posyandu more than 3 times, a total of 56 respondents (95%) and there are 3 respondents (27.8%) who come to the posyandu less than 3 times. There are several factors that can affect the nutritional status of infants, and utilization of the health center (posyandu) is one of them.

Based on theories, the relationship between utilization of posyandu and the nutritional status of infants is influenced by various factors such as the role of parents, availability and access to health services, economic status, and education level. For instance, the active involvement of parents in utilizing posyandu can ensure that their infants receive proper nutrition, as well as regular health monitoring. The availability and access to health services at posyandu can also play a crucial role in promoting good nutrition for infants. On the other hand, low economic status and low education level of parents can affect their ability to provide proper nutrition for their infants and to utilize the services offered at posyandu.

Conflict of Interest

The authors declare that there is no conflict of interest.

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