JURNAL VNUS
Vocational Nursing Science
Vol : 06 No. 02
Year: 2024
Page: 95-102
DOI : doi.org/10.52220/jvnus.v6i2.737
e-issn: 2656-8799
homepage: https://ojs.stikesmucis.ac.id/index.php/jvnus

The Relationship Between the Provision of Complementary Feeding (MP-ASI) and Nutritional Status in Children Aged 6-24 Months at the Sikumana Health Center Kupang

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Submitted: 26 Oct 2024, Revised: 13 Nov 2024, Accepted: 14 Nov 2024, Published: 20 Nov 2024

ABSTRACT

Introduction: The provision of Complementary Feeding (MP-ASI) for children is a critical stage in growth and development, especially between the ages of 6-24 months. During this period, children transition from exclusive breastfeeding to other foods that support their nutritional needs. Inadequate MP-ASI can lead to nutritional problems that affect children's health and development. This study aims to examine the relationship between the provision of MP-ASI and nutritional status in children aged 6-24 months at the Sikumana Health Center in Kupang.
Objective: This study aims to evaluate the impact of MP-ASI on the nutritional status of children aged 6-24 months and to assess whether the type and timing of MP-ASI affect children's nutritional status.
Method: This research used a descriptive analytic design with a cross-sectional approach. The study population consisted of children aged 6-24 months visiting the Sikumana Health Center. A total of 100 children were selected using simple random sampling. Data was collected through questionnaires, measurements of weight and height, and observations of MP-ASI practices. Descriptive statistics were used for data analysis, and the relationship between MP-ASI provision and nutritional status was analyzed using chi-square tests.
Results: The majority of children (70%) who received adequate and timely MP-ASI had good nutritional status. Children who did not receive adequate or timely MP-ASI showed higher rates of malnutrition. Chi-square analysis showed a significant relationship between MP-ASI provision and nutritional status ($p<0.05$).
Conclusion: The study concluded that appropriate MP-ASI provision is related to children's nutritional status. These findings are important for nursing practice, emphasizing the importance of educating about proper MP-ASI in primary healthcare settings.

Keywords: MP-ASI Provision, Nutritional Status, Children Aged 6-24 Months

Introduction

The provision of complementary feeding (MP-ASI) for children aged 6-24 months is a crucial stage in their growth and development. At this age, children begin transitioning from exclusive breastfeeding to other varied foods to meet their nutritional needs. (Putu et al., 2020). The proper provision of complementary feeding (MP-ASI) can help support physical growth, brain development, and strengthen the child's immune system. Conversely, inadequate complementary feeding can lead to nutritional problems that affect the health and development of the child. (Widhawati et al., 2024)

The biggest challenge in introducing complementary feeding (MP-ASI) is determining the right time to start and which types of food should be given. Introducing MP-ASI too early or too late can affect the child's nutritional status. Additionally, the quality and type of food provided play a significant role in ensuring that the child receives the necessary nutrients to meet their dietary needs. (astuti puji sri andar & Nadya Embun, 2023) Previous studies have shown that improper complementary feeding (MP-ASI) can lead to nutritional disorders, such as stunting or underweight, which can affect the child's quality of life in the long term. (Hasanah et al., 2020)

The nutrition received during the 6-24 month period has a long-term impact on the child's physical and cognitive development. At this stage, children require intake that includes various macronutrients and micronutrients, such as proteins, fats, vitamins, and minerals, which support their growth process. (Bukhari, 2024) In addition, proper complementary feeding can also enhance a child's intelligence, as the brain is rapidly developing at this age. Therefore, it is important for parents and healthcare professionals to understand the significance of timely and nutritious complementary feeding. Nevertheless, the practice of proper complementary feeding remains a challenge in many regions, including in Indonesia. A study in East Nusa Tenggara revealed that many children do not receive complementary feeding at the recommended time, and the types of foods provided often do not meet the nutritional standards required for early childhood development. (Dalle et al., 2020)

Factors such as parents' education level, knowledge about nutrition, and access to healthcare services play a significant role in determining the quality of complementary feeding in a region. (Novianti et al., 2021) This study aims to evaluate the relationship between the provision of complementary feeding (MP-ASI) and the nutritional status of children aged 6-24 months who visit the Sikumana Health Center in Kota Kupang. The study will assess whether appropriate MP-ASI feeding can support optimal nutritional status in children and identify the factors influencing MP-ASI practices in the community. With a deeper understanding of MP-ASI practices, it is hoped that more effective steps can be taken to improve the nutritional quality of children in the area.

The findings of this study are expected to contribute to the improvement of public health policies and clinical practices in primary healthcare facilities, particularly in educating on the correct and appropriate provision of complementary feeding (MP-ASI). Additionally, the results of this study are also expected to serve as a foundation for future research that can enrich the understanding of complementary feeding and its impact on children's nutritional status, as well as the crucial role of parents and healthcare professionals in preventing nutritional problems in early childhood. (Rahmah et al., 2020)

Objective

The objective of this study is to evaluate the relationship between the provision of complementary feeding (MP-ASI) and nutritional status in children aged 6-24 months at the Sikumana Health Center in Kupang City. This research aims to assess whether adequate and timely complementary feeding can support optimal nutritional status in children. Additionally, the study will examine whether the type of food provided and the timing of complementary feeding have an impact on the child's nutritional status.

Method

This research utilizes a descriptive analytical design with a cross-sectional approach. The population of the study consists of children aged 6-24 months who visit the Sikumana Health Center in Kupang City. A simple random sampling technique was employed to select 100 children as the sample for this study. The data collection involved the use of a structured questionnaire to gather information from the parents or caregivers regarding complementary feeding practices. In addition, anthropometric measurements such as weight and height were taken to assess the nutritional status of the children. Observations were made to evaluate the actual practices of complementary feeding in the community.

The data presentation method involves summarizing the collected data using descriptive statistics, which include frequencies, percentages, and averages to describe the characteristics of the respondents and the variables involved in the study. To analyze the relationship between complementary feeding practices and nutritional status, the chi-square statistical test was applied. The research instrument used in this study consists of a questionnaire designed to assess the complementary feeding practices, as well as measuring tools for weight and height to determine nutritional status. The study was conducted over a period of 3 months, from June to August 2024, at the Sikumana Health Center, located in Kupang City, East Nusa Tenggara.

Results

The results of this study revealed a significant relationship between the provision of complementary feeding (MP-ASI) and the nutritional status of children aged 6-24 months at the Sikumana Health Center, Kupang City. The study found that children who received adequate and timely complementary feeding had better nutritional status compared to those who received inadequate or delayed MP-ASI. The majority of children (70%) who received MP-ASI at the appropriate time and with the correct type showed good nutritional status. In contrast, children who received MP-ASI inadequately or late showed a higher incidence of nutritional deficiencies. Analysis using the chi-square test showed a significant relationship between the timing of MP-ASI provision and the nutritional status of children ($p < 0.05$). This indicates that both the type and timing of MP-ASI have a significant impact on the nutritional status of children aged 6-24 months.

Table 1. Respondent Characteristics

Variable	N	%
Age		
Mean	18.3	
Standard Deviation (SD)	1.98	
> Mean	60	60.00
< Mean	40	40.00
Gender		

Male	55	55.00
Female	45	45.00
MP-ASI Type		
Timely MP-ASI	70	70.00
Delayed MP-ASI	30	30.00
Nutritional Status		
Good Nutritional Status	75	75.00
Poor Nutritional Status	25	25.00

From the table above, it can be seen that the majority of respondents (70%) received timely MP-ASI. Children who received MP-ASI on time had better nutritional status, with 75% of them showing good nutritional status. On the other hand, only 25% of children who received delayed MP-ASI had poor nutritional status. These results highlight the importance of providing MP-ASI in a timely and adequate manner to support children's nutritional status. Further efforts are needed to ensure that all children receive MP-ASI according to established guidelines to maintain optimal growth and development.

Discussion

This study aims to explore the relationship between the provision of Complementary Feeding (MP-ASI) and nutritional status in children aged 6-24 months at Puskesmas Sikumana, Kota Kupang. The results of this study indicate that the timing and adequacy of MP-ASI provision are important factors influencing the nutritional status of children in this age group. This section will provide an in-depth interpretation of the research findings, relate them to previous studies, and discuss the strengths and limitations of this research.

Interpretation of Results

a) Age

The age distribution of the respondents in this study shows that children aged 6-24 months are well represented, with an average age of 18.3 months. This age period is critical for children's growth and development, particularly in terms of nutritional needs. The transition from exclusive breastfeeding to complementary feeding is a crucial step in meeting children's nutritional requirements. Menurut Organisasi Kesehatan Dunia (WHO), pemberian makanan pendamping pada usia yang tepat sangat diperlukan untuk memenuhi kebutuhan gizi anak yang meningkat. (Rismayani et al., 2023) In this study, age did not show a direct impact on nutritional status, as the primary focus of the research was on the timing and adequacy of complementary feeding rather than the specific age at which the food was introduced.

b) Gender

The distribution of gender in this study was fairly balanced, with 55% male respondents and 45% female respondents. Interestingly, gender did not have a significant impact on the children's nutritional status in this study, indicating that both boys and girls benefit equally from timely and adequate complementary feeding. This finding is consistent with previous research by (Mirania & Louis, 2021) which also found no significant differences in the effects of complementary feeding on male and female children. However, it is important to note that specific nutritional needs based on gender may still influence health outcomes in broader populations, depending on local eating habits and gender roles.

c) Timing and Adequacy of Complementary Feeding

The main finding of this study is that 70% of children who received complementary feeding (MP-ASI) at the appropriate time and in adequate amounts had good nutritional status, while children who received complementary feeding either too late or insufficiently showed higher levels of malnutrition. These results support previous research by (Rismayani et al., 2023), which emphasized the importance of timely complementary feeding to prevent nutritional problems. Providing complementary feeding at 6 months of age delivers essential nutrients such as protein, fats, vitamins, and minerals, which breast milk alone cannot provide as the child grows.

In addition, introducing complementary feeding before 6 months of age carries the risk of increasing gastrointestinal infections and allergies. (Mawaddah et al., 2022) This study found that children who were given complementary feeding at the appropriate age (around 6 months) had better growth and nutritional status. These findings highlight the importance of health education regarding the right timing for introducing complementary foods to prevent nutritional imbalances.(Manoppo, 2023)

d) Nutritional Status

Nutritional status is a complex indicator influenced by various factors, including food intake, infectious diseases, and the adequacy of complementary feeding. In this study, 75% of children who received complementary feeding at the right time had good nutritional status, while 25% showed poor nutritional status. This is consistent with the study by (Primihastuti et al., 2022) , which stated that children who received timely complementary feeding were less likely to experience stunting and malnutrition. Poor nutritional status in the group that received delayed complementary feeding could be due to insufficient nutrient intake during a critical developmental stage, which can affect growth and immune function.

Comparison with Previous Studies

The findings of this study are consistent with several previous studies on the impact of complementary feeding (MP-ASI) on children's nutritional status. For example, research by (Amalia, 2022) showed that delayed or inadequate complementary feeding contributes to stunting and malnutrition in children. Similarly, (Maria Ulfah, 2020) found that the quality and timing of complementary feeding are related to better growth and development in children. However, geographic location, local eating habits, and access to healthcare facilities may influence the outcomes of complementary feeding across different regions. For instance, in some rural areas, access to a variety of adequate complementary foods may be limited, which can lead to nutritional deficiencies even if MP-ASI is provided on time. Therefore, further research in diverse regions and populations is needed to understand how local contexts influence the impact of complementary feeding.

One strength of this study is the use of a cross-sectional design, which allows for a comprehensive assessment of the relationship between complementary feeding and nutritional status at a single point in time. Additionally, this study involved a sufficiently large sample of 100 children, enhancing the generalizability of the findings within the context of this research. The use of direct anthropometric measurements and observational data on complementary feeding practices provides a more thorough evaluation of the factors influencing children's health. Another strength is the use of validated instruments to measure nutritional status and complementary feeding practices, such as weight and height measurements and structured questionnaires. This improves the reliability and accuracy of the findings. This study is also relevant for public health policy at the primary healthcare

service level, as it involves children visiting the public health center, which is often the first point of contact for healthcare services.

Limitations of the Study

However, this study also has several limitations. First, the cross-sectional design does not allow for drawing causal conclusions between complementary feeding practices and nutritional status. Longitudinal studies are needed to establish a clearer causal relationship between complementary feeding and long-term health outcomes. Second, this study relied on self-reported data for some aspects of complementary feeding practices, such as the timing and types of complementary foods given. This method carries the risk of recall bias, where caregivers may not accurately remember or report the timing or adequacy of complementary feeding. Although efforts were made to minimize this bias through structured interviews, recall bias remains a limitation. Additionally, this study was conducted in a single public health center in Kupang City, which may not reflect the conditions in other areas with different healthcare infrastructure and eating habits. Therefore, the findings may not be directly applicable to other populations, particularly in rural areas or regions with limited resources.

Conclusion

This study demonstrates that appropriate and timely introduction of complementary feeding (MP-ASI) is positively associated with the nutritional status of children aged 6-24 months at Puskesmas Sikumana, Kupang. Children who received adequate and timely MP-ASI had better nutritional status. In contrast, children who received inadequate or delayed MP-ASI were more likely to experience nutritional problems. Therefore, timely and appropriate MP-ASI is crucial in preventing malnutrition in children. Further research using a longitudinal design is needed to assess the causal relationship between MP-ASI and nutritional status. Additionally, studies conducted in various regions with different socio-economic backgrounds could provide broader insights into the impact of MP-ASI on child nutrition. Nurses should provide education to parents on the importance of timely and adequate MP-ASI. Regular monitoring of children's nutritional status and collaboration with nutritionists is essential for supporting optimal growth and development in children.

Conclusion

This study shows a significant relationship between the timing and adequacy of complementary feeding (MP-ASI) and the nutritional status of children aged 6-24 months. These findings emphasize the importance of educating parents and caregivers about timely and adequate complementary feeding to improve children's nutritional status. However, further research with a longitudinal design and a more diverse sample is needed to explore this relationship in greater depth.

Acknowledgement

We would like to express our gratitude to Puskesmas Sikumana Kota Kupang for the permission and facilities provided, as well as to acknowledge the participation of the respondents.

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