

THE RELATIONSHIP BETWEEN THE KNOWLEDGE AND ATTITUDES OF POSYANDU CADRES REGARDING THE IMPLEMENTATION OF LOCAL SUPPLEMENTARY FEEDING FOR TODDLERS

Endang Surani  , Hanifatur Rosyidah  , Dian Salsabila
Universitas Islam Sultan Agung

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ABSTRACT

Toddler nutrition plays a crucial role in growth and development, yet problems such as stunting, wasting, underweight, and obesity remain prevalent in Indonesia. Although the stunting rate decreased to 21.6% in 2022, this figure remains above the WHO target of <20%. In Central Java, wasting and underweight rates have increased, and Kendal Regency reported 598 malnutrition cases in 2023. In the Ngampel Health Center area, 69 toddlers were wasted, 176 were underweight, and 95 were stunted. This study aimed to analyze the relationship between the knowledge and attitudes of posyandu cadres regarding the implementation of local supplementary feeding (PMT) for toddlers. This quantitative study employed a cross-sectional design. The population consisted of 260 posyandu cadres, and a purposive sample of 51 cadres was selected. Data were collected in May 2024 using a validated questionnaire assessing knowledge (Guttman scale) and attitudes (Likert scale). Data were analyzed using the Spearman's rank correlation test. The results showed no significant relationship between knowledge and attitudes ($r = 0.058$, $p = 0.685$), indicating a very weak and statistically non-significant association. The lack of association suggests that cadre attitudes may not be determined solely by knowledge but also by other factors such as experience, motivation, training opportunities, and institutional support. These findings highlight the importance of strengthening cadre capacity not only through knowledge transfer but also through practical skill development and supportive supervision to encourage positive attitudes toward local PMT implementation.

ABSTRAK

Gizi balita berperan penting dalam pertumbuhan dan perkembangan, namun masalah gizi seperti stunting, wasting, underweight, dan obesitas masih banyak dijumpai di Indonesia. Meskipun angka stunting menurun menjadi 21,6% pada tahun 2022, angka tersebut masih di atas target WHO <20%. Di Jawa Tengah, angka wasting dan underweight meningkat, sementara Kabupaten Kendal mencatat 598 kasus gizi buruk pada 2023. Di wilayah kerja Puskesmas Ngampel terdapat 69 balita wasting, 176 underweight, dan 95 stunting. Penelitian ini bertujuan untuk menganalisis hubungan pengetahuan dan sikap kader posyandu mengenai penyelenggaraan PMT lokal balita. Penelitian ini menggunakan metode kuantitatif dengan desain cross-sectional. Populasi terdiri atas 260 kader posyandu, dengan sampel 51 kader yang dipilih secara purposive. Data dikumpulkan pada Mei 2024 menggunakan kuesioner pengetahuan (skala Guttman) dan sikap (skala Likert). Analisis data menggunakan uji korelasi Spearman Rank. Uji korelasi Spearman menunjukkan tidak terdapat hubungan signifikan antara pengetahuan dan sikap ($r = 0,058$; $p = 0,685$), yang mengindikasikan hubungan sangat lemah dan tidak bermakna secara statistik. Tidak adanya hubungan ini mengindikasikan bahwa sikap kader tidak hanya ditentukan oleh pengetahuan, tetapi juga dipengaruhi oleh faktor lain seperti pengalaman, motivasi, kesempatan pelatihan, dan dukungan institusi. Temuan ini menekankan pentingnya penguatan kapasitas kader tidak hanya melalui transfer pengetahuan, tetapi juga pengembangan keterampilan praktis dan supervisi yang mendukung untuk mendorong sikap positif dalam pelaksanaan PMT lokal.

Kata Kunci:

Kader Posyandu;
Pengetahuan; PMT Lokal;
Sikap

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✉ Corresponding Author:

Endang Surani
Telp. 081326132370
Email: surani@unissula.ac.id

INTRODUCTION

The nutritional status of toddlers is a key determinant of their growth and development. In Indonesia, nutritional problems such as stunting, wasting, underweight, and obesity remain prevalent, with the 2022 stunting rate still at 21.6%, above the WHO target of <20% (Kemenkes RI, 2022). In Central Java, wasting and underweight have recently increased, and Kendal Regency reported 598 malnutrition cases in 2023 (Dinas Kesehatan Provinsi Jawa Tengah, 2023). In the Ngampel Health Center area alone, there were 69 wasting, 176 underweight, and 95 stunting cases (Badan Pusat Statistik, 2023).

One of the causes of nutritional status problems among toddlers is that many mothers today tend to provide packaged foods that lack adequate nutritional content (Solehati et al., 2019). To address this issue, the government established several nutrition improvement programs, one of which is the Supplementary Feeding Program (PMT). The PMT program was developed in 2023 to utilize local food ingredients and was further refined in 2024. The implementation of the 2024 revised local PMT program is closely related to the role of posyandu cadres.

Previous research found that some posyandu cadres did not fully understand the types of local PMT preparations. For example, in response to the question of whether moringa leaves could be used as the main ingredient in local PMT, some cadres answered affirmatively but could not mention the specific type of PMT made from moringa leaves (Santi et al., 2020). Another study found that although cadres had received knowledge through demonstrations on local PMT preparation, 8 out of 18 posyandu did not continue implementing local PMT, partly due to unsupportive cadre personnel and time constraints. This indicates that cadres may possess knowledge about local PMT but do not necessarily have positive attitudes toward its implementation (Asmi & Alamsah, 2022).

Although several studies have examined posyandu cadres' knowledge and attitudes in relation to health programs, evidence regarding their role in implementing local supplementary feeding (PMT) remains limited. In particular, research is scarce in Kendal Regency, where the prevalence of toddler malnutrition is relatively high. Therefore, this study seeks to fill this gap by analyzing the relationship between the knowledge and attitudes of posyandu cadres toward the implementation of local PMT in the Ngampel Health Center working area.

METHOD

Type of Research

This study was a quantitative study with a cross-sectional approach. The independent variable in this study was knowledge, and the dependent variable was attitude.

Location and Time of Research

This study was conducted in the 2nd-floor hall of the Ngampel Health Center, Kendal Regency, from February to June 2024.

Population and Sample

The population in this study comprised posyandu cadres in the working area of the Ngampel Health Center, totaling 260 cadres across 51 posyandu. The sample consisted of 51 cadres, representing one cadre per posyandu. The selected samples were posyandu cadres appointed as local PMT managers. Since only one or two cadres in each posyandu were assigned as PMT management cadres, the sampling technique used was purposive sampling. The inclusion criteria were posyandu cadres working within the Ngampel Health Center area who agreed to participate as respondents, resided in the designated working area, and were directly involved in the management of local supplementary feeding (PMT). The exclusion criteria included cadres who were absent during data collection or those who were present but became ill and were therefore unable to complete or respond to the research questionnaire.

Data Collection

Data were collected using knowledge and attitude questionnaires. The knowledge questionnaire employed the Guttman scale, while the attitude questionnaire used the Likert scale. Both questionnaires were tested for validity and reliability. The validity test results showed an r-count ≥ 0.355 , and the

reliability test obtained a Cronbach's Alpha value of 0.833 (≥ 0.6). The knowledge questionnaire consisted of 17 items, while the attitude questionnaire contained 14 items.

Data Processing and Analysis

This study used univariate and bivariate analyses. Univariate analysis was conducted to determine the frequency distribution of respondent characteristics, including age, education, length of service as a posyandu cadre, knowledge, and attitude. Normality testing of knowledge and attitude data was performed using the Kolmogorov-Smirnov test. The results showed that both variables were not normally distributed; therefore, the median value was used as the cut-off point for data grouping. The total knowledge scores of respondents ranged from a minimum of 88.23 to a maximum of 100, with a mean of 96.07 and a median of 94.12. The total attitude scores ranged from a minimum of 70 to a maximum of 98.57, with a mean of 84.45 and a median of 84.29.

Bivariate analysis was performed to determine the relationship between the knowledge and attitudes of posyandu cadres regarding the implementation of local PMT for toddlers. The Spearman's rank correlation test was used, as the data were on an ordinal scale.

RESULTS

Table 1.

Respondent Characteristics	n	Percent (%)
Age		
20-35 years	11	21.6
>35 years	40	78.4
Education		
Elementary School	3	5.9
Junior High School	20	39.2
High school	24	47.1
Bachelor	4	7.8
Occupation		
Working	12	23.5
Not working	39	76.5
Length of service as cadre		
1-5 years	19	37.3
6-10 years	14	27.5
≥ 11 years	18	35.3
Knowledge		
Good	24	47.1
Poor	27	52.9
Attitude		
Positive	25	49.0
Negative	26	51.0

Based on Table 1, most respondents were over 35 years old (78.4%) and the majority were not working (76.5%). Nearly half of the cadres had a high school education (47.1%), and most had served as posyandu cadres for 1–5 years (37.3%). In terms of knowledge, more than half of the cadres (52.9%) had poor knowledge, while attitudes were almost evenly distributed, with slightly more cadres showing negative attitudes (51%).

Table 2 shows that respondents aged 20–35 years tended to have better knowledge (81.8%) compared to those aged >35 years (37.5%). Conversely, respondents aged >35 years were more likely to have poor knowledge (62.5%) than those aged 20–35 years (18.2%). Respondents with higher education levels, particularly those with a bachelor's degree, tended to have good knowledge (75%), whereas poor knowledge was more common among respondents with only elementary education

(66.7%). Cadres with 6–10 years of experience showed better knowledge (57.1%), while those with 1–5 years of experience more often had poor knowledge (63.2%).

Table 2.
Cross-Tabulation of Age, Education, and Length of Service with Cadres' Knowledge of Local PMT Implementation (n = 51)

	Knowledge			
	Good		Poor	
	n	%	n	%
Age				
20-35 years	9	81.8	2	18.2
>35 years	15	37.5	25	62.5
Education				
Elementary School	1	33.3	2	66.7
Junior High School	8	40.0	12	60.0
High school	12	50.0	12	50.0
Bachelor	3	75.0	1	25.0
Length of service as cadre				
1-5 years	7	36.8	12	63.2
6-10 years	8	57.1	6	42.9
≥11 years	9	50.0	9	50.0

Table 3.
Cross-Tabulation of Length of Service and Cadres' Attitudes Toward Local PMT Implementation (n = 51)

	Attitude			
	Positive		Negative	
	n	%	n	%
Length of service as cadre				
1-5 years	8	42.1	11	57.9
6-10 years	9	64.3	5	35.7
≥11 years	8	44.4	10	55.6

Table 3 shows that cadres who had served for 6–10 years tended to have more positive attitudes (64.3%), while those who had served for 1–5 years were more likely to have negative attitudes (57.9%).

Tabel 4.
Test Results of the Relationship Between Knowledge and Attitudes of Posyandu Cadres Regarding the Implementation of Local PMT for Toddlers (n = 51)

	Attitude					
	Positive		Negative		p-value	Correlation Coefficient
	n	%	n	%		
Knowledge						
Good	12	50.1	12	50.0	0.685	0.058
Less	13	48.1	14	51.9		

Table 4 shows that among respondents with positive attitudes, 50% had good knowledge, while 48.1% of those with poor knowledge also showed positive attitudes. Conversely, among respondents with negative attitudes, slightly more (51.9%) had poor knowledge compared to those with good knowledge (50%). The relationship between knowledge and attitudes was tested using Spearman's rank correlation, appropriate for ordinal data. The analysis showed no significant relationship between

knowledge and attitudes ($r = 0.058$, $p = 0.685$), indicating a very weak and statistically non-significant correlation.

DISCUSSION

Sociodemographic Characteristics and Knowledge

In Table 1, most cadres were older than 35 years and not working, suggesting that many were housewives with limited exposure to formal training. Although nearly half had a high school education, this did not translate into adequate knowledge, as more than half still showed insufficient understanding of local PMT. Age is defined as the duration of a person's life from birth to the present. The older a person gets, the more mature and experienced they become in thinking and working. Age influences how individuals receive and process information, as older adults tend to be wiser and more reflective based on accumulated experiences.

The study by [Purnamasari, \(2021\)](#) found that respondents aged 20–35 years had better knowledge levels compared to those aged >35 years, who tended to experience cognitive decline, and respondents aged <20 years, who were less mature in reasoning. This suggests that increasing age can improve knowledge up to a certain point, after which cognitive decline may occur. As individuals age, physiological and psychological functions change, characterized by greater maturity in thinking, which facilitates information processing and knowledge development ([Notoatmodjo, 2014](#)).

In Table 1, it was found that most respondents had a high school education (47.1%). Educational level can affect one's knowledge — the higher the education, the better the understanding and ability to process information. This aligns with the findings of [Chahyanto et al., \(2019\)](#), who explained that there is a significant relationship between education and knowledge level because individuals with higher education can absorb information more effectively.

However, [Wulansih, \(2021\)](#) stated that there is no significant relationship between education and the knowledge level of posyandu cadres, as internet access and social media now allow individuals to obtain information more easily. Similarly, [Hardiyanti et al., \(2018\)](#) reported no significant relationship between education and cadres' understanding, suggesting that cadres often gain information from practical experiences and their community environment.

In Table 1, it was also found that the majority of cadres were not working (76.5%). Work is a person's primary activity that generates income, which can support daily life ([Armen, 2018](#)). For posyandu cadres, employment status influences their participation in community health activities — those who work tend to have less time to volunteer. [Arsy & Milla \(2021\)](#) found that the more time spent on paid work, the less time is available for cadre activities. [Profita \(2018\)](#) also reported that working cadres had lower participation levels (40%) compared to non-working cadres (88%).

Being a posyandu cadre is a voluntary role. Cadres act as community health agents who dedicate themselves to improving public health. Many cadres have served for more than five years, and some even more than fifteen years, suggesting that this commitment has become a part of their social identity and sense of calling ([Elita et al., 2017](#)).

The majority of cadres in this study had served for 1–5 years (37.3%). The length of service can influence skill and knowledge levels, longer service allows cadres to gain more experience and training opportunities. According to [Putra \(2016\)](#), cadres who served for less than five years had lower knowledge levels (53.6%) compared to more experienced cadres.

Knowledge on Local PMT

In Table 1, it was shown that most respondents (52.9%) had insufficient knowledge. Knowledge refers to an individual's understanding of an object or concept acquired through experience or education ([Swarjana, 2022](#)). In the knowledge questionnaire, most respondents answered incorrectly on items related to the preparation of local PMT, particularly regarding the requirement of including animal protein sources. Many respondents did not know that local PMT should contain at least two types of animal protein sources, indicating gaps in their understanding of balanced local PMT composition.

The majority of respondents were aged >35 years, and at this age group, knowledge levels tend to be lower than those aged 20–35 years. This finding aligns with [Azizah et al., \(2022\)](#), who reported that respondents aged 20–35 years had better knowledge compared to those aged >35 years, as older

individuals experience physical and psychological changes, including decreased memory and slower information processing.

Most respondents in this study had a high school education (47.1%). It was observed that respondents with higher education (undergraduate) demonstrated better knowledge than those with lower education levels. Higher education tends to enhance one's ability to process and apply new information. However, [Wulansih, \(2021\)](#) found no relationship between education and cadres' knowledge, suggesting that information can now be obtained through multiple sources, such as the internet. Platforms like YouTube have become accessible media for cadres to learn about local PMT practices. In addition, the Ngampel Community Health Center conducted socialization activities in August 2023 to disseminate information on local PMT implementation to all cadres involved.

In this study, most posyandu cadres had served for 1–5 years (37.3%). According to [Putra \(2016\)](#), cadres with less than five years of experience tend to have lower knowledge levels due to limited training and exposure. As the local PMT program is a relatively new development derived from a previous initiative, many cadres are still in the process of understanding and adapting to its implementation.

Attitudes toward Local PMT

Based on Table 1, most respondents had a negative attitude (51%), while 25 respondents (49%) showed a positive attitude. Attitude refers to an individual's belief and tendency to approach (positive) or avoid (negative) something, which in turn affects behavior ([Notoatmodjo, 2018](#)).

In the attitude questionnaire, it was found that most respondents disagreed or strongly disagreed that local PMT should include at least two kinds of protein, and disagreed that local PMT should consist of at least one full meal and the rest as snacks.

A positive attitude toward local PMT influences cadres' behavior in managing local PMT. [Asmi & Alamsah \(2022\)](#) found that among 18 posyandu cadres, 10 practiced how to prepare local supplementary food while 8 did not. This difference was associated with the cadres' attitudes, 10 cadres had positive attitudes and 8 had negative ones, which in turn affected their practice.

According to [Azwar \(2022\)](#), one factor that influences attitude is personal experience. In this study, the majority of cadres had served for 1–5 years (37.3%). The longer someone serves as a posyandu cadre, the more experience they gain. As shown in Table 3, respondents with positive attitudes were mostly those with 6–10 years of service. This experience supports their ability to manage posyandu activities, including the organization of local PMT, since extended involvement strengthens confidence and competence. Experiences tend to shape attitudes, especially when they involve emotional engagement or meaningful outcomes. However, this finding differs from the results of [Handayani & Nuryani \(2022\)](#), who reported that both senior cadres (97.8%) and new cadres (2.2%) demonstrated good performance. Based on the chi-square test, the p-value = 0.711 indicates no significant difference in performance between senior and new cadres.

Relationship between Knowledge and Attitudes

The analysis of the relationship between knowledge and attitudes of posyandu cadres regarding the organization of local toddler PMT using the Spearman rank test showed a p-value of 0.685 (>0.05), indicating no significant relationship between knowledge and attitudes.

This finding is inconsistent with [Nurhayati \(2023\)](#), who reported a significant relationship (p-value = 0.000) between knowledge and attitudes of posyandu cadres regarding lactation management. However, this study is consistent with [Lestari & Ayubi \(2021\)](#), who reported no significant relationship between knowledge and attitudes of posyandu cadres in toddler weighing activities (p-value = 0.514 > 0.05).

The knowledge analysis showed that cadres with positive attitudes tended to have better knowledge compared to those with insufficient knowledge. Adequate knowledge of local toddler PMT can foster positive attitudes among cadres toward program implementation. [Iftika & Pratiwi \(2016\)](#) stated that a person's attitude cannot be separated from their knowledge; a positive attitude can positively influence the fulfillment of certain responsibilities. Furthermore, cadres' nutritional knowledge affects their attitudes toward supplementary feeding, which ultimately influences toddlers' nutritional status. [Pakasi et al. \(2016\)](#) also found a significant relationship between education,

knowledge, and attitudes of posyandu cadres in service delivery, as education influences how individuals respond to and interpret information.

Theoretical frameworks suggest that knowledge can influence attitude formation. Attitude, as a latent construct, does not automatically manifest into observable behavior (Notoatmodjo, 2018). It can translate into real action when supported by external factors such as facilities and supervision from the health center. Therefore, the successful implementation of local toddler PMT depends not only on knowledge and attitude but also on other factors including education, experience, and occupation (Lestari & Ayubi, 2021).

Implications and Limitations

This study highlights the importance of strengthening capacity-building programs for posyandu cadres, particularly in improving their understanding of local supplementary feeding (PMT) and adequate animal protein inclusion. The findings provide a valuable basis for health centers to design more effective cadre training programs and community-based interventions aimed at reducing malnutrition and stunting. However, the cross-sectional design limits causal interpretation. The relatively small sample size and single-site setting restrict generalizability, and reliance on self-reported questionnaires may introduce response bias. Future research involving larger, multi-site samples and longitudinal approaches is recommended to validate and expand these findings.

CONCLUSIONS AND SUGGESTIONS

This study found no significant relationship between the knowledge and attitudes of posyandu cadres toward the implementation of local supplementary feeding (PMT). The absence of this association suggests that attitudes are not solely determined by knowledge but may also be influenced by other factors such as experience, motivation, training opportunities, and institutional support from health centers. These findings underscore the importance of capacity-building programs that not only provide information but also strengthen cadres' motivation and practical skills to foster positive attitudes toward local PMT implementation.

It is expected that this study can provide an overview of the knowledge and attitudes of posyandu cadres regarding local PMT implementation, enabling health centers to strengthen training materials, particularly those related to the fulfillment of animal protein in local PMT. For the Ngampel Health Center cadres, it is hoped that they can continue to enhance their knowledge and attitudes toward local PMT management, so that in future practices they can effectively implement proper and accurate local PMT preparation and organization.

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