The Difference in Knowledge, Attitude, and Skills of Mothers in the Practice of Complementary Feeding for Stunted Toddlers Aged 6-24 Months in Urban and Rural Areas in Bangkalan Regency

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Abstract. Stunting, characterized by impaired linear growth due to chronic malnutrition or recurrent infections, is prevalent in both urban (31.5%) and rural (40.0%) areas from 2010 to 2018. In 2013, rural areas had a 42.1% prevalence, while urban areas had 32.5%. This study aims to assess differences in knowledge, attitudes, and skills of mothers regarding complementary feeding for toddlers aged 6-24 months. It's a quantitative cross-sectional study conducted in Bangkalan Health Center (urban) and Kokop Health Center (rural). Each area had 42 mothers with toddlers in the sample. Results show urban mothers with good knowledge (52.4%), positive attitude (45.29%), and sufficient skills (47.6%) in complementary feeding. Rural mothers have insufficient knowledge (50%), negative attitude (50%), and lacking skills (52.4%). Mann-Whitney tests indicate significant differences in knowledge ($p = 0.02$) and attitude ($p = 0.01$), but no significant skill difference ($p = 0.23$). Recommendations include education methods combining theory and practice to improve mothers' knowledge, attitudes, and skills in complementary feeding.

Keywords: Knowledge, Attitude, Skill, Complementary Feeding, Rural and Urban

1 Background

Stunting is a growth and developmental disorder experienced by children due to factors such as poor nutrition, recurring infections, and inadequate psychosocial stimulation[9]. The primary cause of stunting is prolonged inadequate nutrient intake, typically resulting from improper nutritional intake. A child is considered stunted when their height for age falls more than two standard deviations below the Child Growth Standard Median[21]. The main issue associated with stunting is related to nutrition, and it carries significant social and economic implications within society. Furthermore, stunting

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can have long-term consequences for toddlers as it can adversely affect their health, education, and future productivity[20]. Stunting impacts both the physical and psychomotor aspects of optimal growth and development. The occurrence of short stature in toddlers, commonly referred to as stunting, is one of the nutritional issues faced by young children worldwide toda[26]. In 2017, it was estimated that approximately 22.2% or around 150.8 million toddlers worldwide suffered from stunting. However, this figure has seen a decrease compared to the stunting rate in the year 2000, which was 32.6%[25]. The Basic Health Research results for Indonesia in 2007 indicated a stunting prevalence of 36.8%. In 2010, there was a slight decrease to 35.6%. However, the stunting prevalence increased again in 2013 to 37.2%. Then, in 2018, there was a decrease to 30.8%. The Nutrition Status Monitoring Survey is conducted for monitoring and evaluating program activities and achievements. According to the Nutrition Status Monitoring results in 2015, the stunting prevalence in Indonesia was 29%. This figure decreased in 2016 to 27.5%. However, the stunting prevalence increased again to 29.6% in 2017 and further increased to 30.8% in 2018. In 2019, there was a decrease to 27.7%[12].

The 2018 Basic Health Research results for East Java indicate that it is one of the 18 provinces in Indonesia with a relatively high prevalence of stunting, which is 32.8%. When considering the differences in urban and rural areas, the prevalence of stunting in East Java is higher in rural areas (36.51%) compared to urban areas (29.57%). However, there are still urban areas in East Java with relatively high stunting prevalence, exceeding 30%. For instance, Kediri City has a stunting prevalence of 34.63%, Probolinggo City is at 30.02%, and Pasuruan City is at 34.88%[12]. Short children face a higher likelihood of growing into adults with lower levels of education, increased poverty, poorer health, and greater susceptibility to non-communicable diseases[15]. Factors contributing to stunting include maternal education, sanitation, clean water, exclusive breastfeeding, complementary feeding, immunization, low birth weight, food intake, healthcare facilities, and family economics[7].

According to the research by Rahmawati (2019), it is shown that maternal knowledge is an essential factor in preventing stunting, and stunting tends to occur in toddlers whose mothers have inadequate knowledge[22]. Mothers with good knowledge are generally more capable of providing appropriate complementary feeding to their children. Factors such as education, occupation, and access to information can also contribute to mothers having limited knowledge about stunting in toddlers[16]. Therefore, efforts are needed to enhance public understanding, especially among parents, about the correct and appropriate provision of complementary feeding to prevent stunting in children[3].

The practice of providing complementary feeding alongside breastfeeding is a crucial factor in meeting a child's nutritional needs because from the age of 6 months, there is a nutritional gap between the required amount of energy and nutrients needed and what is provided by breast milk alone, so it must be supplemented with complementary feeding (MP-ASI)[27]. Insufficient nutrient intake from complementary feeding for children aged 6-23 months can lead to growth disturbances and an increased risk of stunting. The World Health Organization (WHO) states that around 32% of toddlers in developing countries suffer from stunting, and 10% suffer from wasting due to

suboptimal complementary feeding practices[27]. In Indonesia, nearly 9 million or 37% of toddlers suffer from stunting, ranking Indonesia fifth in the world for the highest prevalence of stunting[2]. Therefore, mothers play a crucial role in the growth and development of infants and toddlers, especially since maternal knowledge has an impact on their mindset and level of concern regarding providing the right dietary intake for their children[4].

Therefore, the government has formulated strategies to combat stunting through specific and sensitive interventions, one of which is providing parenting education to parents and community nutrition education[1]. The goal of this program is to enhance the knowledge and skills of parents and their understanding of good parenting practices, including proper feeding[5]. Nutrition studies of mothers and children conducted by The United Nations Children's Fund (UNICEF) have shown that one of the factors affecting the difficulty of preventing and addressing malnutrition in Indonesia is inadequate knowledge and various inappropriate feeding practices[24].

Specific research to analyze the differences in knowledge, attitudes, and behaviors of mothers in the practice of providing complementary feeding (MP-ASI) in urban and rural areas has never been conducted[6]. Therefore, comprehensive research is essential to examine the disparities in the knowledge, attitudes, and skills of mothers regarding the practice of providing MP-ASI to children aged 6-24 months in both urban and rural areas in the Bangkalan Regency. The results of this research are expected to serve as a foundation for developing a stunting prevention model by enhancing the practice of providing MP-ASI to children aged 6-24 months.

2 Research Method

This research utilized an analytical survey (explanatory research) with a cross-sectional research design. It was conducted in the Bangkalan Regency from February to October 2022, encompassing both rural and urban areas served by community health centers. Specifically, the study focused on the Kokop Community Health Center's rural area and the Bangkalan Community Health Center's urban area. The purposive sampling method was employed, resulting in a total sample size of 84 respondents, evenly split between stunted toddlers from rural and urban areas. The research process consisted of two stages: screening for stunting and data collection from respondents. Stunting status was determined based on WHO 2006 anthropometric standards, with toddlers having a Z-score of less than -2 SD classified as stunted. Subsequently, SPSS 17.0 software was used for data analysis. The analysis included descriptive statistics to determine frequency values and bivariate analysis to assess differences between urban and rural variables using the Mann-Whitney statistical test at a significance level of $\alpha = 5\%$. Various research instruments were employed, such as questionnaires, informed consent forms, height measuring tools (microtoise), longboards, digital scales, 24-hour recall sheets, Nutrisurvey, WHO Anthro (Anthropometry software), and SPSS. Data collection was conducted through door-to-door visits for each respondent. Ethical approval for the research was granted by the Research Ethics Commission of Surabaya Health Polytechnic on July 7, 2022, under the reference number EA/1218/KEPK-Poltekkes-Sby/V/2022.

3 Result

Table 1 indicates the research results show that there is no significant difference in the age of stunted toddlers in rural and urban areas. In both areas, stunted toddlers are most commonly found in the age range of 13 - 24 months. Toddlers in this age range tend to experience growth retardation and have higher nutritional needs. There is no significant difference in the proportion of gender among stunted toddlers in urban and rural areas. However, this difference may be due to variations in gender distribution in the two areas. In urban areas, a higher percentage of female toddlers is observed, while in rural areas, there are more male toddlers.

Although there is no significant difference in the Z-score PB/TB of toddlers between urban and rural areas (p = 0.69), the average Z-score in rural areas is lower than in urban areas. This suggests that, on average, the height of toddlers in rural areas is shorter than that of toddlers in urban areas. This may indicate a higher prevalence of stunting in rural areas. Statistically, there is no significant difference in the age of mothers in urban and rural areas (P Value 0.269). The age of mothers of toddlers in both areas mostly falls within the range of 20 - 35 years.

There is a significant difference in the level of education of mothers in urban and rural areas. In rural areas, the educational level of mothers is generally lower, with most mothers having only completed primary education (equivalent to elementary school). In urban areas, there are mothers of stunted toddlers with higher levels of education, some even having completed college. The education level of mothers plays a crucial role in child-rearing and the provision of complementary feeding. There is no significant difference in the occupation of mothers of stunted toddlers between urban and rural areas (p = 0.308). In both areas, the majority of mothers of stunted toddlers do not work outside the home.

Table 1. Results of Analysis of Characteristics of Mothers and Toddlers in Bangkalan Regency in 2022

Variable	Category				N	P - Value	Criteria
	Urban		Rural				
Toddler Age	**n**	**%**	**n**	**%**			
6 – 12 Month	13	31	10	23.8	42	0.466	No different
12 - 24 Month	29	69	32	76.2			
Toddler Gender	**n**	**%**	**n**	**%**			
Male	17	40.5	22	52.4	42	0.277	No different
Female	25	59.5	20	47.6			
Z Score TB/BP by Age							
Mean	- 0.82	2,89	- 1.022	3.159	42	0.69	No different
Standard Deviation							

Min	-	5.55	-	6.44			
Max	-	2.08	-	2.12			
Age	**n**	**%**	**n**	**%**			
< 20 Years	3	7,1	1	2.4			
20 – 35 Years	28	66.7	31	73.8	42	0.269	Significant
>35 Years	11	26.2	10	23.8			
Respondent's Eduction	**n**	**%**	**n**	**%**			
Not Attending School	0	0	5	11.9			
Elementary School	18	42.9	31	73.8			
Middle School	8	19	2	4.8	42	0.000	Significant
High School	7	16.7	4	9.5			
College	9	21.4	0	0			
Respondent's Work	**n**	**%**	**n**	**%**			
Housewife	34	80.9	40	95.24	42	0.308	No Significant
Employee	8	19.1	2	4.76			

Based on the information you provided from Table 2, it appears that the research results indicate significant differences in the knowledge, attitudes except skills of mother in rural and urban areas.

Table 2. Level of Knowledge, Attitudes and Skills of Mothers of Toddlers in the Practice of Giving Complementary Feeding in Bangkalan Regency in 2022

Variable	**Category**						
	Rural		**Urban**		**N**	**P - Value**	**Criteria**
Knowledge	**n**	**%**	**n**	**%**			
Less	10	23.8	21	50			
Enough	10	23.8	12	28.6	42	0.02	Significant
Good	22	52.4	9	21.4			
Attitude	**n**	**%**	**n**	**%**			
Less	8	19	21	50			
Enough	17	42.9	16	38.1	42	0.01	Significant
Good	9	38.1	5	11.9			
Skill	**n**	**%**	**n**	**%**			
Less	12	28.6	22	52.4			
Enough	20	47.6	15	15	42	0.23	No Significant
Good	10	23.8	5	5			

4 Discussion

4.1 Differences in Knowledge of Mothers in Urban and Rural Areas

The research findings indicate a significant difference in maternal knowledge between rural and urban areas ($p = 0.02$). In urban areas, the majority of mothers have good knowledge regarding proper complementary feeding (MP ASI), accounting for 52.4% of respondents. In contrast, in rural areas, the majority of mothers of stunted toddlers have limited knowledge, with 50% falling into this category. This difference in knowledge can be attributed to varying levels of education and access to information sources. In the rural area of Kokop health center, internet access is not as readily available as in the urban area of Bangkalan health center. Access to information plays a significant role in knowledge acquisition, and having access to multiple sources of information can enhance one's knowledge[23]. Mass communication channels include print media such as newspapers, magazines, books, and electronic media such as radio and TV. Information from these sources can greatly influence an individual's knowledge. Even if someone has a lower level of education, exposure to accurate information can improve their knowledge[10].

4.2 Differences in Attitudes of Mothers in Urban and Rural Areas

The research results indicate a significant difference in maternal attitudes towards complementary feeding practices between urban and rural areas, with a p-value of 0.02. In urban areas, the majority of mothers have a positive attitude towards proper MP-ASI practices, with 22 mothers (52.4%), while in rural areas, most mothers of stunted toddlers have less favorable attitudes, with 21 mothers (50%).

This difference in attitude can be attributed to varying levels of knowledge and education among mothers in the two areas. According to Notoatmojo, knowledge plays a crucial role in shaping one's attitudes. An increase in knowledge, supported by education and experience, can influence attitudes toward actions taken with regard to children, including attitudes regarding the provision of complementary feeding to children aged 6-24 months[11]. Therefore, the differing attitudes in urban and rural areas may be due to variations in maternal knowledge and education levels in these two regions[18].

Reference to Ai Kustiani's research suggests that educational interventions and the dissemination of information can lead to improved attitudes and practices among mothers regarding complementary feeding[14]. This aligns with the idea that increasing knowledge can positively impact attitudes and, subsequently, behaviors. In Ai Kustiani's study, there was a significant increase in the percentage of mothers with a good knowledge of complementary feeding practices after nutrition education, indicating the influence of knowledge on attitudes and practices[13]. These findings underscore the importance of educational interventions and targeted efforts to improve maternal knowledge and attitudes, particularly in rural areas, to promote proper complementary feeding practices and reduce child stunting[13].

4.3 Differences in Mother's Skills in Urban and Rural Areas

Mothers' skills in providing MP ASI were assessed by observing mothers who demonstrated making MP ASI. In this study, the quality of the practice of giving MP-ASI was categorized based on four of the eight indicators recommended by WHO. The results of the study showed that the quality of the practice of giving MP-ASI to children aged 6-23 months was still not optimal, where the majority of mothers in urban areas had skills in the sufficient category. Regarding providing the complementary food, namely 20 people (47.6%) while in rural areas, the majority of stunted mothers of toddlers have less skills, namely 22 people (52.4%).

From the research results, it was also found that there was no significant difference in mothers' skills in providing complementary foods in both urban and rural areas with p (0.23). In urban areas, where the majority of mothers of toddlers have good knowledge and good attitudes, this is not followed by good practical skills in providing complementary food. Based on the 4 indicators used, only food texture is the highest followed by minimum meal frequency and suitability. timing of giving complementary feeding and diversity (minimal dietary diversity).

Meanwhile, the minimum acceptable diet level is still very low, affecting the quality of appropriate complementary feeding[17]. The data above shows that the practice of giving the complementary food in Bangkalan Regency needs to be improved through the active role of the community facilitated by health workers. Communities who are the main actors in providing MP-ASI on an ongoing basis need to be given an understanding of the meaning of providing the complementary food for >6 months for the baby's health and improving the quality of human resources[8].

Differences in Stunting Toddler Z-Score Values in Rural and Urban Areas. Prabantini's research also shows that inappropriate behavior in giving the complementary food (given at an early age) is mostly caused by the influence of people closest to them (mother, in-laws, older siblings) or because of habits that occur in the surrounding community, and this habit has become a culture, in fact According to informants, the habit of some Sumedang people is that 3-4 days after the baby is born, they are given sanggar bananas (kepok bananas) which are combed or scraped with a spoon[19].

Therefore, health workers, especially village nutrition implementers, are advised to further increase their understanding of the principles of counseling to the community so that they are able to provide various persuasive and motivating counseling about the importance of giving good and correct complementary food to babies so as to foster a new paradigm regarding appropriate timing. appropriate, frequency, variety and also the right portion in giving complementary food to babies aged 6-24 months which in turn is expected to motivate mothers to prioritize exclusive breastfeeding until the baby is two years old.

5 Conclusion

Based on the objectives, this study looks at whether there is a difference between knowledge, attitude, and skills of mothers in the practice of complementary feeding for stunted toddlers aged 6-24 months in urban and rural areas, and found that there are no

differences in the characteristics of toddlers based on age, gender, and Z-score PB/TB according to age in urban and rural areas in Bangkalan Regency and also there are no differences in the characteristics of mothers based on age and occupation, but there is a significant difference in the level of maternal education between urban and rural areas While there is a significant difference in the level of knowledge and attitudes of mothers regarding the practice of providing complementary feeding in urban and rural areas. However, there is no difference in skills between the two areas. Improving mothers' knowledge, attitudes and skills in feeding practices can be done by providing assistance and training to mothers of toddlers on the principles of complementary feeding so that they can be applied directly to toddlers in an effort to prevent stunting.

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