



ENHANCING MOTHERS' COMPETENCE THROUGH EDUCATIONAL INTERVENTIONS FOR STUNTING PREVENTION IN SERANG REGENCY, BANTEN PROVINCE

Nabila Husna^{1*}, Triana Indrayani², Rosmawati Lubis³

¹Master of Midwifery Program, Faculty of Health Sciences, Universitas Nasional, Jakarta, Indonesia

^{2,3}Lecturer in Midwifery, Faculty of Health Sciences, Universitas Nasional, Jakarta, Indonesia

Corresponding Email: trianaindrayani@civitas.unas.ac.id²

Abstract

Complementary feeding practices play an important role in preventing stunting among children under two years of age. However, many mothers still have limited knowledge, attitudes, and confidence in preparing appropriate complementary foods using locally available ingredients. Educational interventions such as cooking demonstrations can help improve maternal competence in providing nutritious complementary foods. Objective: This study aimed to analyze the effect of a cooking demonstration (Demo Masak) intervention on improving mothers' knowledge and attitudes regarding local complementary feeding (MP-ASI) practices for children aged 6–23 months. Methods: This study employed a mixed-methods, exploratory sequential design. The qualitative phase explored factors influencing maternal competence in complementary feeding practices. The quantitative phase used a quasi-experimental design with pretest, post-test 1, and post-test 2 measurements. A total of 50 mothers with children aged 6–23 months at risk of stunting were recruited as respondents. The intervention group received complementary feeding education through cooking demonstrations using locally available foods. Data were analyzed using univariate and bivariate analysis with the Chi-square test. Results: The univariate analysis showed that most respondents were aged 21–35 years (80%), had junior high school education (42%), were predominantly Sundanese (82%), and had a monthly household income of IDR 1–2 million (66%). Most respondents initially had low self-efficacy (78%) in providing complementary feeding. The intervention results showed a significant improvement in knowledge and attitudes after the cooking demonstration. The proportion of respondents with good knowledge increased from 6.7% at pretest to 100% at post-test 2. Similarly, positive attitudes increased after the intervention. The Chi-square test showed a significant relationship between the intervention and improvements in knowledge ($p = 0.000$) and attitudes ($p = 0.005$). Conclusion: Cooking demonstration-based nutrition education significantly improves mothers' knowledge and attitudes regarding complementary feeding practices. Therefore, this interactive educational method can be recommended as an effective strategy to strengthen maternal competence in preparing local complementary foods and support stunting prevention programs.

Keywords: Complementary Feeding, Cooking Demonstration, Maternal Knowledge, Maternal Attitude, Stunting Prevention, MP-ASI

INTRODUCTION

Stunting is a chronic growth disorder in children caused by prolonged nutritional deficiencies, particularly during the first 1,000 days of life—from pregnancy to the child's second birthday (Bevis et al., 2023). This condition not only results in shorter stature compared to children of the same age but also impairs cognitive development, weakens immunity, and increases vulnerability to disease, ultimately affecting academic performance and productivity later in life (Saleh et al., 2021). Globally, stunting remains a major public health concern, affecting approximately one in four children under five years old and contributing significantly to child morbidity and mortality (Bharti et al., 2019; WHO, 2021). The problem is particularly prevalent in developing regions, especially in Asia and Africa, where nutritional

deficiencies, poverty, and infectious diseases remain common determinants of child malnutrition (Owino et al., 2016; Himaz, 2018).

Indonesia continues to face a substantial burden of stunting, ranking among the highest in Southeast Asia. National surveys indicate that around three out of ten Indonesian children experience stunting, reflecting persistent challenges in child nutrition and health services (Izwardy, 2020). In Banten Province, particularly in Serang Regency, although the prevalence of stunting has decreased from 24.09% in 2021 to 23.9% in 2023, the figure remains above the national target. Previous studies indicate that factors contributing to stunting in this region include inadequate dietary intake, limited maternal knowledge of child nutrition, household economic constraints, and limited access to health services. In addition, caregiving practices—such as children being cared for by relatives or caregivers with limited knowledge of proper child feeding—may further increase the risk of inadequate nutrition (Ela, 2025).

Maternal knowledge and practices in infant and young child feeding, particularly the provision of appropriate complementary feeding (MP-ASI), play a critical role in preventing stunting. Inadequate feeding practices, including inappropriate food types, infrequent feeding, and poor nutritional quality, are commonly associated with poor child growth outcomes (Ahmad et al., 2018). Improving maternal competence through nutrition education and practical guidance on preparing local complementary foods is therefore essential to support optimal child growth during the first 1,000 days of life. In this context, this study aims to enhance mothers' competence through educational interventions and support in providing locally available complementary foods as a strategy to prevent stunting in Serang Regency, Banten.

Based on this background, the objectives of this study are: (1) to analyze internal and external situational factors such as access to information, food availability, types of local food, and support from health workers related to maternal competence in providing local complementary foods; (2) to develop a complementary feeding guidebook to support maternal education on local complementary feeding practices; (3) to analyze maternal characteristics, including age, education, ethnicity and culture, family income, birth order, caregiving patterns, and self-efficacy, in relation to maternal competence in providing local complementary foods; (4) to assess the effect of educational interventions and cooking demonstration assistance on improving maternal competence (knowledge and attitudes) in providing local complementary foods; and (5) to evaluate the effect of education and Emo-Demo-based assistance on improving maternal competence (knowledge and attitudes) in providing local complementary foods.

LITERATURE REVIEW

Complementary Feeding and Stunting Prevention

Complementary feeding is a critical component in supporting optimal growth and development among children aged 6–23 months. During this period, breast milk alone is no longer sufficient to meet infants' nutritional needs; therefore, appropriate complementary foods must be introduced to ensure adequate intake of energy, protein, and micronutrients. According to the World Health Organization, appropriate complementary feeding practices include the timely introduction of foods at six months of age, adequate dietary diversity, appropriate meal frequency, and safe food preparation (World Health Organization, 2021).

Inadequate complementary feeding practices have been widely associated with undernutrition and stunting among children under two years of age. Stunting is a chronic nutritional problem resulting from prolonged inadequate nutrient intake and recurrent infections, particularly during the first 1000 days of life (Black et al., 2013). Poor feeding practices, including low dietary diversity and inadequate meal frequency, are major determinants of stunting in many low- and middle-income countries (Bhutta et al., 2013). Therefore, improving maternal knowledge and practices regarding complementary feeding is considered an essential strategy in stunting prevention programs.

Maternal Knowledge and Attitudes Toward Complementary Feeding

Maternal knowledge plays an important role in determining feeding practices and the nutritional quality of foods provided to children. Mothers with adequate knowledge of child nutrition are more likely to provide appropriate complementary foods that meet their children's nutritional needs. Dewey and Adu-Afarwuah (2008) reported that nutrition education interventions targeting caregivers significantly improve mothers' knowledge and feeding practices.

Attitudes toward complementary feeding are also important determinants of maternal behavior. Positive attitudes toward child nutrition and feeding practices may encourage mothers to adopt recommended feeding behaviors. According to health behavior theory, knowledge and attitudes influence behavioral intentions and actual practices (Contento, 2016). Therefore, improving both knowledge and attitudes is essential in promoting better complementary feeding practices.

However, several studies have found that many mothers still lack adequate knowledge regarding appropriate complementary feeding practices, including food diversity, appropriate food textures, and the timing of food introduction (UNICEF, 2020). In addition, cultural beliefs and family traditions may influence feeding practices, sometimes leading to inappropriate dietary patterns among young children.

Utilization of Local Foods in Complementary Feeding

The use of locally available food resources is an important strategy for improving child nutrition, especially in low-income communities. Local foods are generally more accessible, affordable, and culturally acceptable for families. Utilizing local food ingredients in complementary feeding can help ensure sustainability and improve the nutritional quality of children's diets (Ruel & Alderman, 2013).

Local food sources such as eggs, fish, tofu, tempeh, and green leafy vegetables provide essential nutrients, including protein, iron, and vitamins, that are important for child growth and development. Promoting the use of these locally available foods can help families provide nutritious meals for children despite limited household income.

Previous studies have also highlighted that community-based nutrition education programs that promote the use of local foods are effective in improving complementary feeding practices and dietary diversity among children (Dewey & Adu-Afarwuah, 2008). Therefore, encouraging mothers to utilize local food resources is an important component of community nutrition interventions.

Nutrition Education Through Cooking Demonstration

Interactive nutrition education approaches, such as cooking demonstrations, have been widely used to improve maternal knowledge and feeding practices. Cooking demonstrations provide practical learning experiences that allow participants to observe and practice food preparation techniques directly. This hands-on approach helps translate theoretical nutrition knowledge into practical skills that can be applied in daily life. According to Contento (2016), participatory learning methods are more effective than health behaviors in conventional lecture-based education. Through cooking demonstrations, mothers can learn how to prepare balanced meals, understand appropriate food combinations, and improve their skills in preparing nutritious complementary foods for their children.

Several studies have reported that cooking demonstrations significantly improve maternal knowledge, attitudes, and practices related to child feeding. Practical demonstrations also help increase mothers' confidence in preparing complementary foods, thereby improving children's nutritional status (Bhutta et al., 2013).

Self-Efficacy in Complementary Feeding Practices

Self-efficacy refers to an individual's belief in their ability to perform specific behaviors or tasks (Bandura, 1997). In the context of complementary feeding, maternal self-efficacy influences a mother's confidence in preparing and providing appropriate foods for her child. Mothers with higher self-efficacy are more likely to adopt recommended feeding practices and overcome barriers related to food preparation or childcare. Conversely, mothers with low confidence may be less likely to implement recommended feeding practices despite having adequate knowledge. Educational interventions that

provide practical training and hands-on experiences, such as cooking demonstrations, can help strengthen maternal self-efficacy. By observing and practicing food preparation techniques, mothers gain confidence in their ability to provide nutritious complementary foods for their children.

Research Gap

Although various nutrition education programs have been implemented to improve complementary feeding practices, many mothers still face challenges in applying appropriate feeding practices at home. Limited knowledge, low self-efficacy, and socioeconomic constraints remain barriers to optimal child nutrition. Therefore, innovative and interactive educational approaches are needed to strengthen maternal competence in complementary feeding practices. The cooking demonstration method provides an opportunity to combine nutrition education with practical skills training using locally available foods. This approach is expected to improve maternal knowledge, attitudes, and confidence in preparing complementary foods, thereby contributing to the prevention of stunting among children under two years of age.

Framework

This logical framework follows the general structure of a research manuscript:

1. Global problem → Stunting and the first 1000 days of life
2. Specific problem → Suboptimal complementary feeding practices (MP-ASI)
3. Contributing factors → Knowledge, attitudes, self-efficacy, and socioeconomic conditions
4. Intervention solution → Nutrition education combined with cooking demonstrations
5. Local approach → Utilization of locally available foods

Research objective

Cooking Demonstration Intervention → Maternal Knowledge → Maternal Attitudes → Complementary Feeding Practices → Stunting Prevention

METHOD

This study employed a mixed-methods approach, integrating qualitative and quantitative methods to obtain a comprehensive understanding of the research problem. Mixed-methods research focuses on collecting, analyzing, and integrating both qualitative and quantitative data within a single study or across a series of studies. This research adopted an exploratory sequential mixed-methods design, in which qualitative data collection and analysis were conducted in the initial phase, followed by quantitative

methods in the subsequent phase. The integration of the two approaches was conducted through a connecting strategy, in which results from the qualitative phase informed the design and implementation of the quantitative phase. This sequential exploratory model allows qualitative findings to guide the development of interventions and measurement instruments used in the quantitative stage (Creswell, 2007).

Research Stages

Phase 1: Qualitative Study

The qualitative phase used a phenomenological approach to explore mothers' experiences and perceptions related to complementary feeding practices. This stage aimed to identify internal and external factors influencing maternal competence in providing local complementary foods (MP-ASI) for children under two years of age in Serang Regency, Banten. Internal factors included food availability, purchasing power, and the types of locally available foods. External factors included access to nutrition information, support from health workers, and family support. The findings from this phase informed the development of educational materials and intervention strategies for the subsequent quantitative phase.

Phase 2: Quantitative Study

The quantitative phase employed a quasi-experimental design to evaluate the effectiveness of educational interventions to improve maternal competence in providing locally produced complementary foods. Quasi-experimental studies are commonly used to assess interventions and examine causal relationships between interventions and outcomes (Mitchell, 2015).

Before the intervention, participants completed a pretest to assess their baseline knowledge and attitudes regarding complementary feeding practices. The intervention consisted of group-based educational sessions combined with cooking demonstration assistance (demo masak) and Emotional Demonstration (Emo-Demo) educational methods. Immediately after the intervention, a post-test 1 was conducted to measure changes in maternal knowledge and attitudes. Participants were then observed for one month to assess the application of complementary feeding practices. After the observation period, a post-test 2 was conducted to evaluate the sustained effects of the intervention on maternal competence.

The study population consisted of mothers of children aged 6–23 months at risk of stunting living in the working areas of community health centers in Serang Regency, Banten. Based on data from 31 Puskesmas in Serang Regency, the total number of children under two years old identified as being at risk of stunting was 1,163.

The sample represented a subset of the population selected to participate in the quantitative phase of the study. A total of 50 mothers were recruited as research respondents. The participants were divided into two intervention groups:

1. 25 respondents in the Emo-Demo intervention group at Cikeusal Community Health Center (Puskesmas Cikeusal)
2. 25 respondents in the Cooking Demonstration (Demo Masak) intervention group at Tirtayasa Community Health Center (Puskesmas Tirtayasa)

Thus, the total number of respondents across the two intervention groups was 50. Participants were selected based on predetermined inclusion and exclusion criteria to ensure that the respondents met the study requirements.

RESULTS AND DISCUSSION

Result

Qualitative Analysis

The qualitative analysis aimed to identify factors influencing maternal competence in providing local complementary feeding (MP-ASI) as part of stunting prevention efforts in Serang Regency, Banten. Data were collected through in-depth interviews with health workers, community leaders, and mothers of children under two years old. The data were analyzed using NVivo 12 software to generate themes and subthemes related to health service quality, support from health workers, and local complementary feeding practices.

1. Role of Health Workers

The analysis identified three main themes related to the role of health workers: health service quality, support from health workers, and improvement of maternal competence in complementary feeding practices. The node summary analysis showed that health education and mentoring provided by health workers were the most frequently referenced themes, followed by the availability and accessibility of health services.

Health workers including village midwives, nutritionists, stunting program coordinators, and other primary healthcare staff play a key role in improving mothers' knowledge and skills in preparing local complementary foods. Interviews revealed that routine counseling activities conducted at posyandu and community health centers (puskesmas) serve as the main platform for delivering nutrition education.

A village midwife explained that health education is routinely provided to mothers with young children:

“We regularly provide counseling to mothers about complementary feeding according to the child’s age.” (Village Midwife). In addition to providing information, health workers also conduct doctor mentoring, particularly for mothers who need additional guidance regarding appropriate feeding practices. “If a mother still does not understand, we usually explain again during the posyandu session.” (Village Midwife)

Nutritionists emphasized the importance of utilizing locally available food resources to support complementary feeding practices:

“We always encourage mothers to use local food because it is easily available and nutritious.” (Nutritionist). Overall, the findings indicate that health education, mentoring, and collaboration with community health volunteers (kader posyandu) are essential components of efforts to improve maternal competence in providing complementary feeding.

2. Quality of Health Services

Another important theme emerging from the qualitative analysis is the quality of health services, which includes access to health information, the role of health workers, and the availability of health facilities.

Participants highlighted that puskesmas and posyandu have become the primary sources of health information, particularly regarding child nutrition and stunting prevention. Community leaders noted a shift in community behavior toward greater reliance on formal healthcare services.

“Now when people are sick, they go to the health center instead of traditional healers.” (Community Leader). Mothers also reported that direct communication with health workers helped them better understand information related to child nutrition and complementary feeding. “It is easier to understand when the midwife explains directly.” (Mother)

The presence of educational materials such as the Maternal and Child Health (MCH) handbook and community counseling sessions also supported the dissemination of information. However, some participants indicated a need for repeated education and ongoing mentoring to ensure the information is well understood and retained.

Overall, the findings suggest that accessible health services, continuous education, and strong collaboration between health workers and community cadres contribute significantly to improving maternal competence in complementary feeding practices.

3. Local Complementary Feeding Practices

The qualitative findings also explored the types of local complementary foods (MP-ASI) commonly used by mothers in Sukaratu and Sultan Agung Tirtayasa. In Sukaratu, the most frequently mentioned foods were eggs, chicken, fish, and vegetables, which are relatively affordable and easily

accessible to households. Mothers commonly prepared simple, homemade complementary foods, such as porridge and vegetable dishes.

“Usually I give eggs for protein, sometimes with vegetables.” (Mother, Sukaratu). Fish was also identified as a common local food source:

“Here we usually give fish or eggs to the children.” (Posyandu Cadre). These findings suggest that mothers have begun utilizing local food resources for complementary feeding, although the diversity of food types remains limited.

In Sultan Agung Tirtayasa, the use of fish as a primary protein source was more dominant due to the community’s proximity to coastal areas. Fish varieties such as gabus, kembung, mujair, and bandeng were commonly mentioned. “We usually give fish because it is easy to get here.” (Mother, Tirtayasa)

In addition to fish, tofu and tempeh were also widely used as affordable protein sources. Green vegetables such as spinach and moringa leaves were included as sources of vitamins and minerals. Mothers typically prepared complementary foods in forms such as porridge, soup, or steamed dishes to ensure a suitable texture for infants.

Although local foods were widely used, some mothers occasionally relied on commercial complementary foods when they did not have sufficient time to prepare meals. “Sometimes I buy instant baby porridge if I don’t have time to cook.” (Mother, Tirtayasa) Overall, the findings indicate that local food resources play an important role in complementary feeding practices. However, further education and support are needed to improve the diversity and nutritional adequacy of complementary foods provided to children.

Analys Univariat

Tabel 1 Characteristics of Respondents

Variable	Category	n	%
Age	<20 years	2	4
	21–35 years	40	80
	>35 years	8	16
	Total	50	100
Education Level	Elementary School	9	18
	Junior High School	21	42
	Senior High School	18	36
	Higher Education	2	4
	Total	50	100
Ethnicity	Javanese	7	14

	Sundanese	41	82
	Batak	2	4
	Total	50	100
Cultural Practices	Still practicing	13	26
	Partially practicing	19	38
	Not practicing	18	36
	Total	50	100
Family Income	IDR 1–2 million/month	33	66
	IDR 3–4 million/month	15	30
	> IDR 5 million/month	2	4
	Total	50	100
Birth Order of Child	First child	26	52
	Second child	13	26
	Third child	7	14
	Fourth child	4	8
	Total	50	100
Self-Efficacy	Very not confident	2	4
	Not confident	39	78
	Confident	9	18
	Very confident	0	0
	Total	50	100

Based on Table 1, the characteristics of respondents show that the majority were in the 21–35-year age group, accounting for 40 respondents (80%), which represents the active reproductive age and the typical age for child caregiving.

In terms of education level, most respondents had junior high school education (21 respondents, 42%), followed by senior high school (18 respondents, 36%) and elementary school (9 respondents, 18%). In comparison, only 2 respondents (4%) had higher education. By ethnicity, the majority of respondents were Sundanese (41, 82%), followed by Javanese (7, 14%) and Batak (2, 4%).

Regarding cultural practices in childcare and feeding, 19 respondents (38%) reported practicing certain traditions, 13 respondents (26%) reported continuing to practice them, and 18 respondents (36%) reported no longer practicing them. In terms of family income, most respondents had a monthly household income of IDR 1–2 million, totaling 33 respondents (66%), followed by 15 respondents (30%) with income between IDR 3–4 million, and 2 respondents (4%) with income above IDR 5 million per month.

Based on the birth order of the child, the majority of respondents were mothers with their first child, totaling 26 respondents (52%), followed by 13 respondents (26%) with their second child, 7 respondents (14%) with their third child, and 4 respondents (8%) with their fourth child. For the self-efficacy variable,

most respondents were in the not confident category (39; 78%), followed by the confident category (9; 18%) and the very not confident category (2; 4%).

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Table 2 Knowledge Category in the Cooking Demonstration Group

Measurement	Good (n)	Good (%)	Poor (n)	Poor (%)	Total (n)	Total (%)
Pretest	5	6.7	20	26.7	25	33.3
Post-test 1	15	20.0	10	13.3	25	33.3
Post-test 2	25	33.3	0	0.0	25	33.3
Total	45	60.0	30	40.0	75	100

Table 2 shows the distribution of knowledge categories in the Cooking Demonstration intervention group across three measurement periods. At the pretest, of the 25 respondents (33.3%), 5 (6.7%) were in the good knowledge category, while 20 (26.7%) were in the poor knowledge category.

At post-test 1, the number of respondents in the good category increased to 15 respondents (20.0%), while those in the poor category decreased to 10 respondents (13.3%). Furthermore, at the PO, all respondents (25, or 33.3%) were in the non-poor category, and none remained in the poor category (0.0%).

Overall, out of 75 observations, 45 respondents (60.0%) were categorized as having good knowledge, while 30 respondents (40.0%) were categorized as having poor knowledge. This pattern indicates a consistent improvement in knowledge levels from the pretest to post-test 2 following the cooking demonstration intervention.

Table 3 Chi-Square Test Results for Knowledge Category in the Cooking Demonstration Group

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	33.333	2	0.000
Likelihood Ratio	42.281	2	0.000
Linear-by-Linear Association	32.889	1	0.000
N of Valid Cases	75		

The Chi-square test results examining the relationship between the intervention time and knowledge categories in the Cooking Demonstration group showed a Pearson Chi-Square value of 33.333 with a significance value (Sig.) of 0.000, which is 5.

It indicates a statistically significant relationship between the cooking improvement intervention and improvements in knowledge categories. In other words, it improved respondents' knowledge regarding complementary feeding practices.

Table 4 Attitude Category in the Cooking Demonstration Group

Measurement	Good (n)	Good (%)	Poor (n)	Poor (%)	Total (n)	Total (%)
Pretest	20	26.7	5	6.7	25	33.3
Post-test 1	25	33.3	0	0.0	25	33.3
Post-test 2	25	33.3	0	0.0	25	33.3
Total	70	93.3	5	6.7	75	100

The distribution of attitude categories in the Cooking Demonstration intervention group shows that at the pretest, 20 respondents (26.7%) were categorized as having good attitudes. In comparison, 5 respondents (6.7%) were categorized as having poor attitudes.

After the intervention, both post-test 1 and post-test 2 showed that all respondents (25 respondents or 33.3% at each stage) were in the one category, with no respondents remaining in the poor category (0.0%).

Overall, 70 respondents (93.3%) demonstrated good attitudes, while only 5 respondents (6.7%) remained in the poor category. These findings indicate a clear improvement in attitudes following the cooking demonstration intervention.

Table 5 Chi-Square Test Results for Attitude Category in the Cooking Demonstration Group

Test	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.714	2	0.005
Likelihood Ratio	11.719	2	0.003
Linear-by-Linear Association	7.929	1	0.005
N of Valid Cases	75		

The Chi-square test results for attitudes in the Cooking Demonstration group showed a Pearson Chi-Square value of 10.714 with a significance value (Sig.) of 0.005, which is less than 0.05. This result indicates a statistically significant relationship between the intervention period and respondents' attitude categories. Therefore, the cooking demonstration intervention significantly improved respondents' attitudes toward complementary feeding practices.

DISCUSSION

1. Qualitative Analysis

The qualitative findings of this study highlight several important factors influencing maternal competence in providing local complementary feeding (MP-ASI) for children aged 6–23 months in Serang Regency. These factors include the role of health workers, the quality of health services, and the utilization of locally available food resources. These findings indicate that both internal and external factors play significant roles in shaping mothers' knowledge, attitudes, and practices regarding complementary feeding.

a. Role of Health Workers in Improving Maternal Competence

The findings demonstrate that health workers play a crucial role in improving maternal competence in complementary feeding practices. Health workers provide health education, counseling, and direct mentoring to mothers through community-based health services such as posyandu and community health centers (puskesmas), helping them understand and adopt appropriate care practices according to the child's age and nutritional needs.

These findings are consistent with previous studies, which suggest that nutrition education delivered by health workers significantly improves mothers' knowledge and feeding practices. Health workers act as facilitators, helping translate nutritional recommendations into practical guidance that mothers can apply at home. Continuous mentoring also allows mothers to ask questions and clarify information that may not be fully understood during counseling sessions.

Furthermore, collaboration between health workers and community health volunteers (kader posyandu) strengthens the delivery of nutrition education at the community level. Community cadres often serve as intermediaries between health services and families, ensuring that health information reaches mothers more effectively. This collaborative approach is particularly important in rural areas where access to formal health information may be limited.

b. Quality of Health Services and Access to Information

Another important finding from the qualitative analysis relates to the quality and accessibility of health services. Participants reported that community health centers and posyandu have become the primary sources of health information related to child nutrition and stunting prevention. Accessible health services enable mothers to obtain reliable information and professional guidance regarding appropriate feeding practices.

The availability of educational resources such as the Maternal and Child Health (MCH) handbook, routine counseling sessions, and community health programs supports the dissemination of nutrition information. These services have maternal awareness of the importance of appropriate complementary feeding practices during the first two years of life, a critical period for child growth and development.

However, the findings also suggest that information alone may not be sufficient to change behavior. Some mothers still require repeated explanations and practical demonstrations to fully understand and implement recommended feeding practices. It highlights the educational value of interactive educational methods, such as participatory learning approaches, which allow mothers to observe and practice preparation techniques firsthand.

c. Utilization of Local Food Resources for Complementary Feeding

The study also found that mothers commonly use locally available foods when preparing complementary foods for their children. Commonly used foods include eggs, fish, tofu, tempeh, and green vegetables such as spinach and moringa leaves. These foods are relatively affordable and readily available in the community, making them practical options for daily feeding practices.

The use of local food resources is an important strategy for improving child nutrition, particularly in areas where household economic constraints may limit access to commercial food products. Local foods often provide essential nutrients required for child growth, including protein, vitamins, and minerals. Encouraging mothers to use local food resources can therefore support sustainable, culturally appropriate complementary feeding practices.

In coastal areas such as Tirtayasa, fish was identified as a dominant protein source due to its abundance and accessibility. Fish is known to contain high-quality protein and essential fatty acids that support brain development and child growth. Therefore, promoting the use of locally available fish in complementary feeding programs may improve nutritional intake among children.

Despite the availability of local foods, some mothers reported occasionally relying on commercial complementary foods due to time constraints or convenience. This finding suggests that time availability and household workload underpin food preparation practices, underscoring the need for education programs that offer simple, practical food preparation methods.

d. Implications for Stunting Prevention Programs

Overall, the findings suggest that improving maternal competence in complementary feeding requires integrated strategies that combine nutrition education, community support, and the utilization of local food resources. Health workers play a key role in delivering education and mentoring, while community health services provide an important platform for communication and support.

Interventions such as cooking demonstrations and emotional demonstration (Emo-Demo) methods may help strengthen maternal understanding and skills in preparing nutritious complementary foods using locally available ingredients. These approaches not only provide knowledge but also encourage behavioral change through practical experience and interactive learning.

Strengthening community-based nutrition education programs and promoting the use of local food resources may therefore improve complementary feeding practices and reduce the risk of stunting among children under two years of age.

2. Expert Validation Results of the Local Complementary Feeding (MP-ASI) Assistance Module and Menu Book

The validation of the Local Complementary Feeding (the MP-ASI) Assistance Module and the Local MP-ASI Menu Book was conducted by expert validators comprising three nutrition experts, one nutrition expert who is also a stunting program coordinator, and one module development expert. The validation aimed to assess the feasibility of the content, the accuracy of the material, language clarity, suitability for the target audience, and the visual attractiveness of the materials.

The results of the expert validation showed that Aiken's V values for all assessment aspects were categorized as highly valid. Specifically, the content feasibility aspect had an Aiken's V value of 0.93, the material accuracy aspect scored 0.83, the language clarity aspect scored 0.95, the target suitability aspect scored 0.85, and the visual attractiveness aspect scored 0.95. The overall average Aiken's V value was 0.90.

These results indicate that the Local MP-ASI assistance module and menu book have met the criteria for content validity and are appropriate for use in the research without requiring major revisions.

3. Univariate Analysis

The univariate analysis in this study describes the characteristics of respondents and the distribution of knowledge and attitude variables related to complementary feeding practices before and after the intervention. The findings indicate that most respondents were aged 21–35 years (80%), which represents the productive reproductive age group and the active period for childcare. Mothers within this age range are generally more receptive to health information and more actively involved in caregiving practices.

In terms of education level, the majority of respondents had junior high school education (42%), followed by senior high school education (36%). Educational background plays an important role in shaping mothers' ability to understand and apply health-related information, including appropriate complementary feeding practices. Previous studies have shown that mothers with higher levels of education tend to have better knowledge and practices related to child nutrition and health.

The majority of respondents were from the Sundanese ethnic group (82%), reflecting the study area's demographics. Cultural practices were also observed in this study, with 38% of respondents reporting partial adherence to traditional practices related to childcare and feeding. Cultural beliefs and traditions can influence feeding behavior and dietary choices, thereby affecting children's nutritional intake.

From an economic perspective, most respondents (66%) had family incomes of IDR 1–2 million per month, indicating relatively low household incomes. Economic conditions can influence the availability and diversity of food sources for children. However, the use of locally available food

resources helped overcome economic limitations in providing nutritious complementary feeding. The child's birth order: most respondents were first-time mothers (52%); this explains why many initially had limited experience and confidence in providing complementary feeding. This finding is supported by the self-efficacy results, where the majority of respondents (78%) reported low confidence in providing complementary feeding practices before the intervention. Low self-efficacy may limit mothers' ability to implement appropriate feeding practices, underscoring the importance of educational interventions to enhance maternal confidence and competence.

Overall, the univariate analysis suggests that maternal age, education level, cultural practices, household income, and self-efficacy may influence mothers' knowledge and attitudes toward complementary feeding practices.

4. Bivariate Analysis

The bivariate analysis examined the relationship between the cooking demonstration intervention and changes in knowledge and attitudes regarding complementary feeding practices. The results showed a clear improvement in the knowledge category following the intervention. At the pretest stage, most respondents were categorized as having poor knowledge, but the proportion of respondents in the good knowledge category increased significantly in post-test 1 and post-test 2. By the final measurement, all respondents were categorized as having good knowledge. This pattern indicates that the cooking demonstration intervention effectively improved respondents' knowledge regarding complementary feeding practices.

The Chi-square test results further confirmed this finding, with a Pearson Chi-Square value of 33.333 and a significance value of 0.000 ($p < 0.05$). This result indicates a statistically significant relationship between the intervention period and the knowledge category, suggesting that the cooking demonstration intervention significantly improved maternal knowledge.

Similarly, improvements were also observed in the attitude variable. Before the intervention, a small proportion of respondents still had negative attitudes toward complementary feeding practices. However, after the intervention, all respondents demonstrated positive attitudes toward complementary feeding practices in both post-test measurements.

The Chi-square test results for attitudes showed a Pearson Chi-Square value of 10.714 with a significance value of 0.005 ($p < 0.05$). This finding indicates a significant relationship between the intervention period and the respondents' attitudes. Therefore, the cooking demonstration intervention not only fostered knowledge but also contributed to positive behavioral attitudes toward complementary feeding practices.

Educational interventions that involve interactive learning methods, such as cooking demonstrations, allow participants to observe and practice food preparation techniques directly. This

approach can enhance understanding, strengthen motivation, and encourage behavioral change more effectively than conventional lecture-based education. Through hands-on demonstrations, mothers can learn practical skills for preparing nutritious complementary foods with locally available ingredients. Overall, the findings of this study suggest that cooking demonstration interventions are effective in improving mothers' knowledge and attitudes regarding complementary feeding practices, which may contribute to better child nutrition and support stunting prevention efforts.

CONCLUSION

1. This study demonstrated that the cooking demonstration (Demo Masak) intervention significantly improved mothers' knowledge and attitudes regarding local complementary feeding (MP-ASI) practices.
2. The univariate analysis showed that most respondents were mothers aged 21–35 years, had junior high school education, were predominantly Sundanese, and had low household income. Additionally, most respondents initially reported low self-efficacy in providing complementary feeding, indicating the need for educational support.
3. The bivariate analysis revealed a significant improvement in knowledge and attitudes after the intervention. The proportion of respondents in the good knowledge category increased consistently from pretest to post-test. In contrast, the poor knowledge category gradually decreased, with no respondents remaining in it at post-test 2. Similarly, respondents' attitudes toward complementary feeding practices improved significantly after the intervention.
4. The Chi-square test results confirmed a statistically significant relationship between the intervention and improvements in both knowledge ($p = 0.000$) and attitudes ($p = 0.005$). These findings indicate that the cooking demonstration method is an effective educational strategy for improving maternal competence in preparing local complementary foods.

Therefore, the implementation of interactive nutrition education methods, such as cooking demonstrations, is recommended as part of community-based programs to improve complementary feeding practices and support stunting prevention efforts among children under two years of age.

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