Jurnal SMART Keperawatan, 2025, 12 (2), 151-157
http://www.stikesyahoedsmg.ac.id/ojs/index.php/sjkp
Received 19 March; Revised 8 May; Accepted 15 May 2025

SKJP 2025
pISSN 2301-6221; eISSN 2502-5236

ENHANCING MATERNAL SELF-EFFICACY IN COMPLEMENTARY FEEDING THROUGH HEALTH EDUCATION: A QUASI-EXPERIMENTAL STUDY

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ABSTRACT

Background: Providing good nutrition aims to reduce stunting rates. Giving complementary foods is also influenced by the mother's self-efficacy. It is hoped that education for mothers can increase their self-efficacy in providing complementary foods. **Objective**: This research aimed to determine the effect of education on maternal self-efficacy in providing complementary foods to children aged 6-24 months. **Methods**: The method used was Quasi-experimental with one group pretest-posttest design. It was conducted in Jiwan Village, Karangnongko District, Klaten Regency. The population is mothers who have children under five in Jiwan Village with a total of 224 people. The sampling technique used was purposive sampling with a sample size of 29 mothers. The intervention was education, using brainstorming and lecture methods and audiovisual media and booklets. The analysis used is the Wilcoxon test with a confidence level of 95%. **Results**: The average self-efficacy score before education was 55.86 ± 5.36 and the score after education was 58.79 ± 7.03 an increase in the average mother's self-efficacy score in providing complementary foods. The results show that the Z count is -3.109 and the significancy is 0.002. **Conclusion**: there is a difference in self-efficacy results before and after education on giving complementary foods. It is hoped that the education program for providing complementary foods will be implemented sustainably with the development of educational media.

Keywords: Complementary foods; Health Education; Self-efficacy

INTRODUCTION

Nutrition for children under two years of age (under-2 years old) needs to be paid attention to so that children's growth and development are optimal. Under-aged children need exclusive breast milk and complementary foods. Inadequate food intake can lead to nutritional status problems. Based on the results of the 2022 Indonesian Nutritional Status Survey, 21.6% of Indonesian children suffer from stunting, 7.7% are wasting, 17.1% are underweight, and 3.5% are overweight. The prevalence of stunted toddlers in Central Java in 2022 is 20.8%, wasting 7.9%, underweight 17.6%, and overweight 3.2%. Meanwhile, the nutritional condition of children under five in Klaten is 18.2% stunting, 6.2% wasting, 16.1% underweight, and 4% overweight. (Kemenkes, 2022).

Nutritional issues in children, especially those aged 6 to 24 years, must be considered. Research shows that knowledge, attitudes, income, cultural values , and parenting are important factors that prevent stunting in mothers of children aged between 6 and 24 months. (Yunitasari et al., 2020). Previous research also states that there is a relationship between low birth weight, family income nutritional intake, and stunting (Khayati et al., 2020). In this case, knowledge also includes providing nutrients. Children's nutritional status must be optimized through proper nutrition. Complementary foods are given to children aged 6 to 24 months as a

continuation of the exclusive breastfeeding program. Sufficient energy intake supports the achievement of good nutritional status (Widiastity & Harleli, 2021). This is in accordance with previous studies which show that there is a relationship between education, knowledge, and maternal self-efficacy and the incidence of stunting (Aulia et al., 2021).

Mother's knowledge plays an important role in implementing complementary foods. Literature studies show that factors that can influence early complementary feeding include maternal characteristics (age, education, employment), knowledge, attitudes, compliance, culture, information sources, family support, breast milk production, and pregnancy of the first child. (Novianti et al., 2021).

Self-efficacy is belief in one's ability to perform actions that produce desired outcomes. This self-efficacy is one of the factors that shape a mother's behavior in fulfilling her child's nutrition. Self-efficacy in providing complementary breast milk is defined as the mother's confidence in her ability to provide complementary breast milk food that is good enough in terms of time, portion, frequency, and variety as well as providing food that is safe and hygienic. This also includes creating a comfortable and warm environment while children eat and responding appropriately to any cues the child gives while eating, including feelings of hunger and fullness. Mother's education, family type, father's occupation, mother's occupation, baby's health, and family income status are antecedents of these attributes. The consequences are changes in maternal behavior, increased child food intake, and physical growth (Hendriyani et al., 2020). There are still many mothers who have low self-efficacy in providing complementary foods, especially in the quality and quantity aspects of complementary foods and the responsive feeding aspect. (Dwi et al., 2023).

Education is one step that can be taken to increase mother's knowledge. Nursing-supportive education programs have proven effective in improving mothers' knowledge and attitudes when feeding their children between the ages of 6 and 24 months. (Suryawati et al., 2020). This shows that health education using audiovisual media is effective in increasing the knowledge of mothers of stunted children about proper nutrition for stunted children and parenting patterns for stunted children. This is also supported by the literature review presented (Fadyllah & Prasetyo, 2021). Previous research shows that there is an influence on mothers' knowledge and self-efficacy regarding complementary foods using statistical tests and the results obtained are differences before and after intervention with a value of p(value) = 0.001 < 0.05, namely that there is a significant influence on education (Rezky Ramadhani Ismi et al., 2023). The health coaching method is also effective in increasing mothers' self-efficacy in preventing stunting (Anastasia Terok & Pongantung, 2023).

Karangnongko District is one of the sub-districts in Klaten Regency that has a problem with children under five with malnutrition. Based on data from the 2022 Klaten District Health Profile, 15.4% of toddlers at the Karangnongko Community Health Center are stunted, 8.6% are malnourished and 0.5% are malnourished. (Profil Kesehatan Kab.Klaten, 2022). Jiwan Village is one of the villages located approximately 13 km from the city center of Klaten, where some mothers with small children are given complementary foods before the age of 6 months. Based on interviews with 11 mothers who have children aged 6-24 months, it was found that giving complementary foods varies. In the first 6 months, some gave complementary foods 2 times a day but there were also those who gave it once a day with a frequency of 1-3 spoons. On average, children at the age of 8 months are given 5 spoonfuls of porridge, and then at the age of 9 months they are given rice. Based on interviews with village midwives, many parents still do not understand when complementary foods should start, including the type and method. Previous activities at *Posyandu (Pos Pelayanan Terpadu/*

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Integrated Service Post) were weighing and providing additional food. In Jiwan Village, *Posyandu Sejahtera* III and V also have stunted children. Apart from that, there has also been no structured education carried out to increase mothers' knowledge and self-efficacy in providing complementary foods.

Based on the background description above which shows that there are still high numbers of stunting, the practice of providing complementary food is not appropriate and the knowledge and self-efficacy of mothers are still lacking, it is important to carry out research on the influence of education on maternal self-efficacy in providing complementary food in Jiwan Village. This research aimed to determine the effect of education on maternal self-efficacy in providing complementary foods to children aged 6-24 months.

METHOD

This research was a quasi-experimental research with a one-group pretest-post-test design. This research will be carried out in Jiwan Village, Karangnongko District, Klaten Regency. The research was carried out in April 2024. The population of this research were mothers with toddlers in Jiwan Village with a total of 224 people. The sampling technique used was purposive sampling with a sample size of 29 mothers. The inclusion criteria were mothers who have children aged 6-24 months, can read and write, can communicate, were willing to take part in research, the baby did not suffer from coronary heart disease. The exclusion criteria were mothers who have children with congenital diseases that require special care and mothers who do not live at home with the child.

The independent variable in this research was education about giving complementary foods. The dependent variable in this research was the mother's self-efficacy in providing complementary foods. The intervention carried out was education for 1 x 60 minutes using brainstorming and lecture methods and using audiovisual media and modules.

The instrument used was a questionnaire regarding self-efficacy for giving complementary foods (Complementary Feeding self-efficacy Scale) from previous research (Hendriyani, 2020). The questionnaire has been tested for reliability with a result of 0.894 (>0.60). Data analysis uses univariate and bivariate. Bivariate analysis used the Wilcoxon test (because the data was not normally distributed). This research has undergone ethical clearance at the Health Research Ethics Committee of the Faculty of Medicine Universitas Muhammadiyah Surakarta with letter number 5213A/B.1/KEPK-FKUMS/III/2024.

RESULTS

1. Respondent Characteristics

Table 1 Overview of Respondent Characteristics (n-29)

Characteristics of responden	n	%
Mother's age		
20-35 years	25	86.21
> 35 years	4	13.79
Children's age		
0-12 months	6	20.69
13-36 months	12	41.38
37-60 months	11	37.93
Education		
Elementary School	1	3.45
Junior High School	10	34.48
Senior High School	15	51.72
Diploma	1	3.45
Bachelor	2	6.89
Work		
Work	5	26.3
Not working	24	82.8
Total	29	100

Tabel 1 shows that the majority of respondents were 20-25 years old, 25 people, the majority of children's age were 13-36 months, 12 childrens, had a senior high school education, namely 15

people and the majority were housewives, 24 people.

2. Mother's Self-Efficacy Before and After the Intervention

Table 2 Average Self-Efficacy Before and After Education in Jiwan Village (n=29)

No.	Variable	Min	Max	Mean	SD
1.	Pretest	46	67	55,86	5,36
2.	Posttest	50	73	58,79	7,03

Based on Table 2, the average self-efficacy score before education is 55.86 ± 5.36 and the average self-efficacy score after education is 58.79 ± 7.03. This shows an increase in the average from before to after education.

3. The Effect of Education on Mother's Self-Efficacy in Providing Complementary Foods

Based on the results of the normality test, the pretest scores were not normally distributed (p-value 0.119) and the post-test scores were normally distributed (p-value 0.002). So the bivariate test uses the Wilcoxon Test. Bivariate test results are as follows:

Table 3 The Effect of Education on Mother's Self-Efficacy in Providing Complementary Foods (n-29)

No.	Variable	Min	Max	Mean	SD	p-value	z
1.	Pretest	46	67	55,86	5,36	0.002	-3.168
2.	Posttest	50	73	58,79	7,03		

Table 4 shows the results of the Wilcoxon self-efficacy test showing that the sig is 0.002. This shows that the sig 0.002 is less than 0.05 (5% error rate), so it can be concluded that there is a difference in self-efficacy results before and after education on giving complementary foods.

DISCUSSION

The results showed that the average maternal age was 28.55 ± 5.8 years. So the respondent's age is classified as productive age. Age 20-35 years is the appropriate age for pregnancy so that mothers are ready to undergo pregnancy and care for children (Kemenkes RI, 2021). However, previous research results did not show a relationship between age and children's nutritional status (Swandari & Handayani P, Mukarromah OWK, 2019). In accordance with age periodization, age 28.55 years is classified as young adulthood. The developmental tasks of young adult individuals include choosing a life partner, learning to live with a life partner, starting a family life, caring for and educating children, managing a household, starting work activities, taking responsibility as a citizen and citizen, and finding friendship in social groups. (Maulidya et al., 2021).

The results of this study also show that the average age of children is 31.68 ± 15.78 months. This age is classified as toddler age. Toddlers (0-5 years) are the age group that most often suffers from malnutrition or are one of the community groups that are vulnerable to nutrition (Irianti, 2018). Most of the respondents had a high school education, namely 14 people (48.3%). The results of previous research show that there is a relationship between education and self-efficacy in providing complementary foods to children aged 6-24 months. (Fadilah et al., 2023). This is in accordance with previous research showing that there is a relationship between the mother's education level and the early provision of complementary foods (Tatuin et al., 2019). The mother's education level is related to changes in attitudes and healthy living behavior. A higher level of education will make it easier for a person or community to absorb information and implement it in daily behavior and lifestyle, especially in terms of health and nutrition. The results of Fadila's research show that there is a significant relationship between educational variables, assessment support or appreciation,

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Received 19 March; Revised 8 May; Accepted 15 May 2025

and family emotional support with mothers' self-efficacy in providing complementary breast milk to babies aged 6-24 months. Apart from that, the research results also show that assessment support or rewards are the factors that most influence mothers' self-efficacy in providing complementary breast milk to babies aged 6-24 months in the Kalirungkut Community Health Center working area. (Fadilah et al., 2023).

The results of this research found that the majority of respondents were housewives, namely 24 people (82.76%). The results of other research show that there is a relationship between work and giving complementary foods (Rustam et al., 2022). Employment status has both positive and negative impacts. Through work, mothers can help earn income so they can buy food necessities that are in accordance with complementary foods. However, working mothers do not always receive information about complementary foods. On the other hand, housewives have the opportunity to be with their children longer and are able to take part in posyandu activities so they can ask cadres or midwives about the child's nutritional status.

The results of the study showed an increase in the average mother's self-efficacy score before and after education. The mother's self-efficacy in providing complementary foods is the mother's confidence in her ability to provide complementary foods, including the quality and quantity of complementary foods, food safety, and responsive feeding. The results of previous research show that there are still many mothers who have low self-efficacy in providing complementary foods, especially in the quality and quantity aspects of complementary foods and the responsive feeding aspect. (Dwi et al., 2023).

This research uses audiovisual media and booklets. Audio-visual media is a medium for conveying messages that activate the target's sense of sight and hearing (Ernawati, 2022). Booklet media is a medium for conveying health messages in the form of books that are made as attractive as possible containing pictures and writing. Usually, the books are small so they are easy to carry everywhere. The booklet is written in concise, clear language, easy to understand in a short time (Christie & Lestari, 2019). Another advantage of the booklet is that it does not require an electric current so it is easier to use. Booklets are given to each individual so they can be studied at any time. Apart from that, booklet media can also train each respondent's responsibility to increase their knowledge through booklet media. Accepted. Each respondent can study the booklet at any time because it is in the form of a book and contains more information (Gafi et al., 2020). Booklets are an interesting medium that relies on the sense of sight. Human absorption capacity using only the sense of sight is around 82%. The absorption capacity of the sense of sight is the highest compared to other senses (Khotimah et al., 2019).

The results of this study indicate that educational interventions through lectures, brainstorming, audiovisual media, and booklets significantly increased mothers' self-efficacy in providing complementary feeding. The practical implication is the importance of integrating continuous and structured educational programs into local health services such as Posyandu and community health centers, especially in areas with a high prevalence of stunting. Health workers can utilize audiovisual and booklet-based educational tools to empower mothers with knowledge and confidence. Furthermore, the findings support evidence-based policy development to strengthen promotive and preventive interventions in child nutrition through maternal empowerment at both family and community levels.

This study has several limitations. First, the study used a quasi-experimental one-group pretest-posttest design without a control group, which limits the ability to fully eliminate the influence of external factors on the increase in self-efficacy. Second, the sample size was

relatively small (n=29) and limited to a single village, which restricts the generalizability of the findings to a broader population. Third, the data were collected through self-report questionnaires, which may be subject to social desirability bias, as respondents might have provided answers they believed were expected. Lastly, this study did not assess the long-term effects of the educational intervention on actual complementary feeding behaviors, suggesting the need for future longitudinal research.

CONCLUSION

There was an increase in the average self-efficacy score after education on providing complementary foods. There is an influence of education on giving complementary foods on mothers' self-efficacy in giving complementary foods. It is hoped that the education program for providing complementary foods will be implemented sustainably with the development of educational media.

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Received 19 March; Revised 8 May; Accepted 15 May 2025
pISSN 2301-6221; eISSN 2502-5236

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