

Original Article

INFLUENCE OF COMPLEMENTARY FEEDING PRACTICE EDUCATION ON MOTHERS' RESPONSES TO FEEDING TODDLERS

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ABSTRACT

Background. Adequate nutrition is essential for the growth of neonates, infants, and toddlers, beginning with exclusive breastfeeding for the first 6 months. After this period, complementary feeding becomes necessary as breast milk alone is insufficient. This approach can lower child mortality under 5 by 6%. Careful introduction of complementary foods is crucial, as errors such as early initiation and inadequate nutrition can lead to health issues. The purpose of this study was to examine the influence of complementary feeding practice education on mothers' responses to feeding toddlers.

Research Method. The study employed a pre-experimental one-group pretest-posttest design conducted at the Integrated Health Post (Posyandu) within the Suruh Community Health Center in 2024. The targeted mothers of toddlers under 5 years, utilizing a total sampling method with 50 respondents. Key variables included education on complementary feeding practices, actual feeding practices, and sociodemographic factors such as age, education level, employment status, family income, family size, and toddler characteristics like age, height, and nutritional status. Data collection utilized a comprehensive feeding practices questionnaire (CFPQ) consisting of 54 items, with statistical analyses performed using the Wilcoxon tests.

Findings. The test obtained $p=0.000$, there is an influence of complementary feeding practice education on mothers' feeding practices for toddlers in the Suruh Community Health Center area.

Conclusion. Educational interventions provided by health service providers can effectively change the practice of providing complementary feeding for mothers and improve the growth status of toddlers.

Keywords: Complementary Feeding Practice Education, Feeding Toddler, Mother.

BACKGROUND

Providing adequate and balanced nutrition is essential to promote growth in neonates, infants, and toddlers, a crucial prerequisite for maintaining a healthy body [1]. Nutritional support begins with exclusive breastfeeding from birth to 6 months of age to support optimal growth and development [2]. After 6 months, breast milk alone is insufficient to meet all nutritional needs, and the gap widens with age. At this stage, complementary feeding plays a crucial role in bridging this gap [3].

This introduction process must begin to meet the nutritional and developmental needs of infants, as the transition from only milk to other foods is a critical period during early life [4]. According to WHO, complementary feeding is the process of providing food in addition to breast milk, and this food is referred to as complementary feeding [5]. Complementary feeding should be introduced starting at 6 months of age because breast milk or formula production alone is no longer sufficient to meet infants' energy needs. In addition to the timing of introduction, WHO also emphasizes the need for dietary diversity based on basic food groups to ensure a diverse nutritional intake [6].

Providing complementary feeding is an effective intervention to minimize the mortality rate in children under 5 years of age by 6% [7]. The Ethiopian Demographic Health Survey showed that 49% of mothers practiced complementary feeding practices before the age of 6 months, while 5.2% of children aged 6-23 months had been given complementary foods. 27% of mothers also provided various types of food such as water and butter before the age of 6 months [8]. Nutrition and health surveillance in China showed that the introduction of complementary feeding practices was too early (<6 months) and too late (>8 months). In urban areas, almost all children (94%) received complementary feeding too early, namely <4 months, varying between 7% and 20%. On the other hand, there was a very late introduction of complementary feeding, namely after the age of 9 months, at 5.5% [9]. According to the Indonesian Demographic Health Survey (SDKI), 50% receive complementary feeding at 4-5 months of age, while more than 90% receive it at 6-8 months. Meanwhile, 50-81% of children are introduced to complementary feeding before 6 months, with an average age of 4.4 months (72.73). Meanwhile, the annual rate of complementary feeding after birth is 4.5%, before 1 month is 8.4%, and between 2 and 3 months is 17.8% [10].

The recommended complementary feeding practice process is not without internal and external challenges. These challenges relate to mothers' knowledge regarding supplementary feeding, cultural influences on mothers, patterns, and the burden of other responsibilities mothers have in the household [11]. The correct pattern of complementary feeding is not only assessed by timing, but also by quantity and texture. This is influenced by various key factors, namely knowledge and attitudes. A study reported that, of the total, 54% had correct knowledge about the timing of complementary feeding, 25.5% knew about the correct consistency, and 8% knew about the correct amount of food given [12].

The government has planned various efforts to implement the complementary feeding program, as it aims to reduce stunting in Indonesia by 14% by 2023 [13]. One such effort is the

implementation of Infant and Young Child Feeding (PMBA), which has been accompanied by education and cross-sectoral collaboration. Addressing food insecurity and household food access is a key factor in the program's success [14]. Based on the description that has been presented, as a researcher, it is advisable to study and examine the problem so that it is interesting to conduct research and examine the extent of the influence of complementary feeding practice education on the feeding practices of mothers with toddlers.

RESEARCH METHOD

The research design used was pra-experimental one-group pretest-posttest design at the Integrated Health Post (Posyandu) in the Suruh Community Health Center working area in the year of 2024. The population were mothers of toddlers and the sample used a total sampling technique amount of 50 respondents. The variables were complementary feeding practice education, feeding practices, and sociodemographic data including age, education level, mother's employment status, family characteristics (family income, number of family members, number of toddlers in the family), and child characteristics (age, height, nutritional status based on weight/height). Complementary feeding practice education given 4 times in one month, once every week with duration of 30-50 minutes. Data collection in this study was carried out using a comprehensive feeding practices questionnaire (CFPQ) developed by Musher-Eizenman which consists of 54 items [15]. Before data collection, respondent given written informed consent at the date of research and the respondents fulfilled research instruments. This research has been reviewed and ethically approved by number of 000.9.2/248/106.010.11.001/2024 on April 9, 2024. The data obtained were analyzed statistically using the Wilcoxon test and the Mann-Whitney test.

FINDINGS

This study is an educational intervention on complementary feeding practices in Trenggalek. Although the issue of complementary feeding is universal in rural areas due to socioeconomic constraints and traditional beliefs, research on complementary feeding in Trenggalek is still limited. The total subjects of this study were 50 mothers of toddlers registered at the integrated health post (posyandu) in the Suruh Health Center working area. Based on the characteristics, the proportion of the age of the research subjects was 44% (22 mothers) of respondents aged 20-29 years, 52% (26) of respondents aged 30-39 years and 4% (2) of respondents aged 40-49 years.

Table 1. Characteristics of research respondents (n=50)

Characteristics	Frequency	Percentage
Mothers Age		
20-29 years old	22	44
30-39 years old	26	52
40-49 years old	2	4
Education		
High School	30	60
Junior High School	15	30
Academy/University	5	10
Toddler age		
0-1 years old	16	32
1-3 years old	28	56
3-5 years old	6	12
Mother's Job		
Self-employed	6	12
Housewife	44	88
Information on Giving MPASI		
Once	40	98
Never	10	2
Resources		
Health workers	33	82.5
Social media and books	7	17.5
Increase in weight after education		
Weight gain	30	60
Steady weight	20	40

Based on education, the research subjects with the highest education of high school were 60% (30 mothers), 30% (15 mothers) had the lowest education of junior high school and there were 10% (5 mothers) with D3/S1 education. Data on the age of toddlers in this study were 56%

(28) toddlers aged 1-3 years, 32% (16) toddlers aged 0-1 years, and 12% (6) toddlers aged 3-5 years. Data on the mother's occupation were 12% (6) mothers working as entrepreneurs and 88% (44) mothers as housewives. Data regarding information on providing complementary foods, having received nutritional counseling, mothers of toddlers have received nutritional counseling about complementary foods for breast milk as many as 98% (40) mothers, and 2% (10) mothers have never received counseling about complementary foods for breast milk. As well as sources of information about complementary foods for breast milk, namely 82.5% (33) mothers get information from health workers, and 17.5% (7) mothers get information from social media and books. In addition, data was also obtained about food taboos in toddlers. There are 2% (10) toddlers who have taboos in food, and 98% (40) toddlers have no taboos in food. Based on the KMS book, it was found that there was an increase in child weight as many as 60% (30) toddlers who experienced an increase in weight, and 40% (20) toddlers had stable weight.

Table 2. Descriptive Data

	N	Mean	Std. Deviation	Minimum	Maximum
feedingpre	50	144.3600	36.45168	63.00	213.00
feedingpost	50	190.4000	15.76744	163.00	233.00

Table 2 showed before and after education, the mean of feeding practice of 50 mothers have difference score of 46.04. The difference of the standard deviation, before and after giving complementary education practice was 20.68424. There was an increase of minimum and maximum score after the intervention.

Table 3. Wilcoxon Signed Ranks Test Result

	N	Mean Rank	Sum of Ranks
feedingpost – feedingpre	Negative Ranks	5 ^a	50.50
	Positive Ranks	45 ^b	1224.50
	Ties	0 ^c	
	Total	50	
Z	-5.667 ^b		
Asymp. Sig. (2-tailed)	.000		

The table showed almost all of respondent (45 mothers) have a positive different of feeding practice after the education practice and no mothers have same feeding practice after the intervention. The results of the Wilcoxon statistical test obtained $p=0.000$, which means that there is an influence of complementary feeding practice education on mothers' feeding practices for toddlers in the Suruh Community Health Center area.

DISCUSSIONS

The research findings that educational interventions delivered by health care providers can effectively change mothers' complementary feeding practices (45 mothers have positive rank) and improve the growth status of toddlers (weight gain 60% of 30 toddlers). The intervention activities in this study were culturally sensitive, comprehensive, and integrated with local resources. When developing the intervention plan, researchers evaluated how traditional complementary foods were prepared, whether local foods were sufficient to meet nutritional needs, and whether the recipes were acceptable, affordable, and convenient for local families. The educational messages contained in the booklet were simple, focused, and illustrated. A key element in the success of this study was that the intervention was implemented through existing health workers [16-18]. Over 80% of mothers surveyed identified health workers as the most trusted source of information regarding child care and feeding. Furthermore, health workers also have access to local families through routine health services, making them the most appropriate resource for implementing the intervention. Therefore, integrating educational activities on complementary feeding into the existing health care system can lead to greater long-term sustainability [19-21]. These results provide evidence that improving appropriate complementary feeding practices through health education and communication strategies can have a positive impact on child growth outcomes.

Knowledge emphasizes the importance of a family-centered approach in designing interventions to increase complementary feeding. Promoting the safe preparation, feeding, and storage of complementary foods is also crucial in efforts to increase complementary feeding [22,23]. Proper complementary feeding (MPASI) is crucial for growth and development, and interventions to improve feeding practices in children aged 0-5 years require adequate attention. Child feeding strategies provide a framework for efforts to increase complementary feeding and support sustainable complementary feeding [24,25].

The effectiveness of feeding combined with maternal nutritional counseling suggests that this combination is more effective than education alone [26-29]. In a study in India [26], the group given food plus education gained 250 g more weight and 0.4 cm more length than the control group over an 8-month intervention, while the group receiving only education gained 250 g more weight than the control group and had no advantage in height gain. Similarly, in a study from Bangladesh [27], results in the group receiving only education were intermediate between those in the food plus education group and the control group. This suggests that under

certain conditions, supplemental feeding is more effective than education alone. Ideally, counseling mothers and their families would be better if it began early, or even during antenatal care. Increasing complementary feeding requires attention to the feeding and feeding behaviors of caregivers or parents. Infants and young children require age and developmentally appropriate support to ensure they consume adequate amounts of complementary foods.

CONCLUSION

There is an influence of Complementary Feeding Practice Education on the Feeding Practice of Mothers with Toddlers in the Suruh Community Health Center Work Area year of 2024.

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