



eISSN: 2281-7824

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Healthc Low-resour S 2024 [Online ahead of print]

To cite this Article:

Munjidah A, Masita ED, Novianti H, Dewi UM. **The efficacy of implementing family-centered care in child feeding practices.** *Healthc Low-resour S* doi: 10.4081/hls.2024.11964

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The efficacy of implementing family-centered care in child feeding practices

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Key word: child, efficacy, family, feeding, practice.

Contributions: AM, conceptualization, data curation, formal analysis, methodology, validation, visualization, writing – original draft, review and editing; EDM, conceptualization, investigation, methodology, validation, and writing – original draft; HN, conceptualization, methodology, formal analysis, validation, and writing – original draft, review and editing; UMD, resources, investigation, and writing –review and editing.

Conflict of interest: the authors declare no conflict of interest.

Ethics approval and consent to participate: the Ethical Committee of Nursing and Midwifery Faculty, Universitas Nahdlatul Ulama, Indonesia, has certified that this research is ethical. The ethical certification number is 035/016/V/EC/KEP/LCBL/2023 May, 16 2023. During the research, the researcher pays attention to the ethical principles of information to consent, respect for human rights, beneficence and non-maleficence.

Patient consent for publication: written informed consent was obtained for anonymized patient information to be published in this article.

Funding: this research did not receive external funding.

Availability of data and materials: all data generated or analyzed during this study are included in this published article.

Acknowledgement: we would like to thankful to LPPM Universitas Nahdlatul Ulama Surabaya, Indonesia for funding this research and providing motivation, facilities for researchers so that this research can be carried out smoothly. The authors would like to thank all respondent who were cooperative and assisted in this research process.

Abstract

Nutrition is a basic need for a child to grow optimally. Improper child feeding practices are still found in the community, leading to malnutrition. The incidence of malnutrition has increased sharply in children aged 6 to 18 months in various countries, primarily due to ignorance and/or an inability to prepare food. The family plays a crucial role in the prevention and treatment of child nutrition problems. Families can provide education and practical supervision in addressing nutrition-related issues, including promoting healthy lifestyle patterns. The objective of this study was to determine the effectiveness of implementing family-centered care in changing child feeding practices. The research design employed was true experimental analysis with a pre-posttest group design. The population consisted of 130 respondents, infants aged 6 to 23 months, selected using a probability sampling technique with purposive random sampling. The research was conducted in Wonokromo, Surabaya, Indonesia, from March to June 2023. The measuring instrument utilized was a family-centered care-based child feeding guide. The independent variable in the study was family care, while the dependent variable was the change in the child's feeding practices. Test analysis was performed using the Mann-Whitney test. The results of the Mann-Whitney test indicated a significant difference in feeding practices before and after counseling with the family-centered care approach ($p = 0.043$). Thus, family-centered care was found to be effective in changing child feeding practices.

Introduction

Nutrition is essential for a child to grow optimally.¹ Providing correct nutrition during the first 1000 days of life will determine both short-term and long-term quality of life for a human.² Healthy eating habits are essential for improving nutritional status and strengthening immunity against diseases.³ Still, a lot of inappropriate feeding practices are found among children in societies, which is a reason for malnutrition. Stunting among children negatively impacts their health and overall development.⁴ Indonesia is facing nutritional problems, one of which is malnutrition.⁵ The incidence of malnutrition increases sharply in the 6 to 18-month period in various countries, either due to ignorance and/or inability to prepare complementary foods.⁶ The health and nutritional status of children are very dependent on the care of the mother from the time in the womb until the child is born, grows, and develops.⁷ In Indonesia, the anthropometric index is recorded on a Card Towards Health called *Kartu Menuju Sehat* or KMS, which refers to WHO–2005 Standard Growth Charts (WHO–2005 SGC).⁸ Based on the 2018 Basic Health Research, the prevalence of being underweight, stunting, and wasting is 17.8 percent, 30.8 percent, and 10.24 percent, respectively.⁹

Exclusive breastfeeding is one of the important indicators in addressing nutritional problems in children.¹⁰ Feeding practices typically commence with exclusive breastfeeding during the first 0-6 months, followed by the introduction of solids from 6-24 months. Complementary feeding (CF) plays a crucial role in meeting the nutritional needs of children that cannot be solely satisfied by breastfeeding alone.¹¹ CF begins when breast milk alone is no longer sufficient to meet infants' nutritional requirements, necessitating the introduction of other foods and liquids alongside breast milk. Thus, the transition from exclusive breastfeeding to family foods is termed complementary feeding. Consequently, the period from birth to two years of age has been recognized as the optimal time for fostering healthy dietary habits.¹² One of the primary challenges in developing countries is the provision of low-quality complementary foods, resulting in failure to thrive during the complementary feeding period.⁴ According to the 2021 Indonesian Nutritional Status Survey (INSS), exclusive breastfeeding rates stand at 42%, while the introduction of semi-solid and solid foods to children is at 69%. However, only 52.5% of children aged 6-23 months have diverse dietary intake. The frequency of appropriate complementary foods, as per WHO recommendations, is 53%, and only 19% of children receive food of minimum quality. These figures fall short of evidence-based feeding practices recommended for infants and toddlers in Indonesia to prevent child malnutrition. To address this issue, it is crucial to identify the causes of incorrect feeding practices and undertake efforts to rectify them.

Researchers have identified several studies on factors influencing feeding practices. Zulfikar *et al.* (2020) analyzed the role of culture and maternal knowledge in feeding children.¹³ Agus Sri Banowo (2020) discovered that nutrition education programs serve as flagship initiatives to improve family feeding practices and combat stunting.¹⁴ Andi Tenri Abeng *et al.* (2018) found that training integrated healthcare center cadres significantly influences maternal practices in providing complementary foods.¹⁵ Diah Estingias (2019) found that family involvement plays a crucial role in maternal practices regarding the provision of complementary foods.¹⁶ Shloim (2015) revealed that parental approaches, parenting styles, eating styles, and feeding practices greatly impact children's eating habits and growth.¹⁷ Wa Ode Syahrani H. (2016) also found that personal health education significantly enhances maternal efficacy and feeding behaviors in children with poor nutrition. Asmare *et al.* (2020) conducted a study on the prevalence and factors associated with child feeding practices.¹² Researchers assessed the success of feeding practices influenced by child factors, environmental factors, and food factors. In previous studies, researchers have investigated the effect of education on maternal literacy regarding the provision of complementary foods.¹⁸ the effect of feeding rules on children's feeding difficulties¹⁹ massage interventions to improve children's chewing ability²⁰ and weight gain²¹ and use of card media²² as well as the effect of adding onion and garlic to complementary foods.²³ Research shows that mothers, as primary caregivers, are greatly influenced by the support of close relatives such as husbands and family members in their household.¹ This support is key in helping families, the smallest societal unit, in preventing and treating child nutrition issues. They can provide education and practical supervision to prevent and address nutrition-related problems, including through the promotion of healthy lifestyle patterns. Therefore, efforts to empower families are essential.²⁴

Moreover, it is evident that alternative methods involving different respondents are still highly necessary. This research proposes a new method employing the family-centered care approach because researchers are interested in studying the implementation of family-centered care to change children's feeding practices.

Materilas and Methods

Research design

The research design employed in this study was True Experimental analysis with a pre-group design - posttest. This research investigates the influence of family-centered care on changes in child feeding practices.

Study participants

The population of this study consisted of 130 respondents, namely babies aged 6 months to 23 months in the sub-district of Wonokromo, Surabaya City, Indonesia. The babies included both boys and girls aged 6-23 months, who were not currently ill or suffering from congenital defects, and belonged to Muslim, Javanese, and Madurese families. They were selected during health activities in villages known as integrated service posts conducted monthly. The sampling technique employed was probability-based purposive random sampling, with the research conducted in the Wonokromo sub-district of Surabaya. The research period spanned from March to June 2023.

Variables, instruments and data collection

The independent variable in this research is family-centered care, and the dependent variable is child feeding practices. The operational definition of family-centered care is the role of the family in the care process. Meanwhile, the operational definition of feeding encompasses the implementation of feeding children, including scheduling, menu selection, processing methods, and methods of feeding.

The measuring tool used to assess feeding practices is a checklist derived from the 0-1 year old infant care guide¹¹ and evidence-based child feeding recommendations.⁶ Data analysis utilized the Mann-Whitney test.

Data collection was conducted directly after the researchers received an ethics approval letter from the Brahmanda Lentera Indonesia (Candle) Ethics Institute. The research team then obtained permission for the study and submitted it to the Chairman of the sub-district RW Wonokromo in the city of Surabaya. Subsequently, the research team coordinated with village midwives and child health cadres. Once the research timeline was agreed upon, the team formed a field team comprising 12 midwifery students. These students received

assignment letters from Nahdlatul Ulama University Surabaya and were provided with daily food and transportation incentives. The field team, consisting of 12 midwifery students, conducted data collection at the beginning of each week. Additionally, they provided assistance to 65 families, with each student accompanying 5-6 families. Counseling sessions about the role of the family in providing complementary breastfeeding were conducted for the treatment group three times a week, specifically on Mondays, Wednesdays, and Saturdays, each lasting for 60 minutes. In the second week, the research team administered a questionnaire about feeding practices to children.

Data analysis

Data were collected and analyzed using bivariate analysis after being directly obtained as primary data. The Mann-Whitney test was used for data analysis. The recognized level of significance was $p = 0.05$. Using SPSS version 20, all data were examined.

Ethical clearance

The Ethical Committee of Nursing and Midwifery Faculty, Universitas Nahdlatul Ulama, Indonesia, has certified that this research is ethical. The ethical certification number is 035/016/V/EC/KEP/LCBL/2023 May, 16 2023.

Results

The results of the research on feeding practices in 130 respondents yielded the following general data. According to Table 1, it was observed that 66.9% of respondents were aged between 20 and 44 years, 36.1% had a high school education, 28.8% were employed, 55.4% had an income of more than 3 million, 62.3% had more than three family members, and 60% had more than two children.

Based on Table 2, it is evident that the average score of feeding practices in the treatment group is higher (38.58%) than in the control group (29.7%). The provision of family-centered care-based education can enhance children's feeding practices, as indicated by the higher average score in the intervention group compared to the control group.

Based on Table 3, it is evident that in the intervention group, after receiving treatment, the majority (52.3%) of respondents exhibited good feeding practices, while almost half (32.3%) demonstrated poor practices, with a smaller proportion (15.4%) showing sufficiency. Conversely, in the control group post-treatment, nearly all respondents (84.6%) displayed poor feeding practices, with only a small proportion (15.4%) achieving sufficiency. The results of the Mann-Whitney test conducted using SPSS for Windows, with a significance level of $\alpha = 0.05$, yielded a P-value of 0.043 ($0.043 < 0.05$), indicating significant differences in feeding practices between the intervention and control groups.

Discussion

The study results revealed significant differences in feeding practices following the implementation of the family-centered care model treatment. This model of care involves educating family members residing in the same household. The research demonstrated the effectiveness of the family-centered care educational approach in rectifying previously incorrect child feeding practices. Traditionally, childcare predominantly focused on the mother and child relationship; however, this study incorporated family involvement, including the husband and other household members.

Based on the overall research results, a significant difference in the practice of feeding children in the treatment group before and after receiving family-centered care model education can be observed. Moreover, changes in child feeding practices after receiving family-centered care model education predominantly shifted in a positive direction.²⁵ This indicates the positive role of the family in child rearing, aligning with the theory that family-centered care can be applied across various healthcare settings and age groups.²⁶ The core tenets of family-centered care include mutual respect, information exchange, participation, and cooperation.²⁷ The philosophy of family-centered care originates from an environment where families are empowered to support their mental health and contribute significantly to life enhancement. However, family-centered services may lead to undesirable outcomes if families make uninformed decisions while caring for their members, underscoring the importance of clear communication from healthcare professionals. The implementation of the family-centered care philosophy necessitates collaboration from all stakeholders, emphasizing the role of healthcare providers in fostering information exchange and fostering cooperative relationships.²⁸

Feeding practices encompass various elements, including the mother's organization of eating schedules, food menus, ingredients,²⁹ processing methods, serving methods, and administration methods,³⁰ as well as handling distractions and the mother's attitude when the child refuses to eat.³¹ Families implementing the family-centered care method will not only understand,¹⁴ but also actively engage in child feeding practices. The practical significance of the research results is twofold: i) the adoption of the family-centered care method will serve as a guideline for midwives, nurses, and health cadres, highlighting the importance of family involvement in child care; ii) the family-centered care method can serve as an effective approach to modifying child feeding practices.

limitation of this study is that respondents may not have provided accurate information about their children's feeding practices due to social desirability bias. Data collection techniques involving questionnaires require mothers to recall their children's feeding practices from previous periods, which may lead to forgetting, potentially influencing current feeding practices. It is suggested that future research on feeding practices employ direct observation methods to obtain a more accurate understanding of children's feeding practices.

This research demonstrates that the child care model involving the family has been effective in improving child feeding practices, consistent with previous findings linking family involvement to the provision of complementary foods.¹⁶ Methods of care or other interventions aimed at improving and enhancing children's feeding practices should be explored further to ensure children's nutritional needs are met and to prevent stunting.⁶

Conclusions

The development of family-centered care methods has proven effective in changing children's feeding practices. Differences in feeding practices between the intervention group and the control group were observed. Family-centered care methods have the potential to alter children's feeding practices. The more families are involved in the parenting process, the better children's needs are met. Health workers, midwives, or nurses should educate not only mothers or caregivers but also husbands or other family members within a household about child feeding practices. Family-based educational activities can be implemented before children reach 6 months of age. Midwives, nurses, or health cadres in the village should

provide facilities to mothers experiencing difficulties with feeding practices through WhatsApp or during counseling events in the village.

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Table 1. Characteristics of respondents in May-June 2023.

Characteristics of respondents	Frequency	Percentage (%)
Age		
< 20	24	18,4
20 - 44	87	66,9
>44	19	14,6
Education		
Primary School	28	21,5
Middle School	30	23
High School	47	36,1
College	25	19,2
Work		
Not working	31	23,8
Student	7	5,3
Private	29	22,3
Entrepreneur	26	20
Labor	37	28,4
Family income		
< 3.000.000	58	44,6
> 3.000.000	72	55,4
Family members		
1-3	49	37,6
> 3	81	62,3
Number of children		
1-2	52	40
>2	78	60
Primary Data: June 2023		

Table 2. Results of data analysis in the treatment group and control group before and after treatment.

Feeding practice	Group			
	Control		Intervention	
	Pre	Post	Pre	Post
Mean	26.7	29.7	27.2	38.58
Primary Data: June 2023				

Table 3. Distribution of feeding practice after treatment with family centered care.

Feeding practice	Group			
	intervention		control	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Poor	21	32.3	55	84.6
Enough	34	52.3	10	15.4
Well	10	15.4	0	0
Total	65	100	65	100
Statistical test with Mann Whitney <i>Test</i>				
<i>Exact Sig (2-tailed) = 0.043</i>				
Primary Data: June 2023				

Submitted: 13 October 2023

Accepted: 11 March 2024

Early access: 29 March 2024