Amerta Nutrition
e-ISSN: 2580-1163 (Online)
p-ISSN: 2580-9776 (Print)
Intiyati et al. | Amerta Nutrition Vol. 8 Issue 2SP (December 2024). 49-57

RESEARCH STUDY
English Version
OPEN ACCESS

Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods

Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional

Ani Intiyati[1]*, Imam Sarwo Edi[2], Inne Soesanti[1], Juliana Christianingsih[1], Kusmini Suprihatin[3], Luluk Widarti[3]

[1]Nutrition Department, Health Polytechnic of the Ministry of Health Surabaya, Surabaya, Indonesia
[2]Dental Health Department, Health Polytechnic of the Ministry of Health Surabaya, Surabaya, Indonesia
[3]Nursing Department, Health Polytechnic of the Ministry of Health Surabaya, Sidoarjo, Indonesia

ARTICLE INFO

Received: *08-10-2024*
Accepted: *17-12-2024*
Published online: *30-12-2024*

Correspondent:
Ani Intiyati
ani_gizi@poltekkesdepkes-sby.ac

DOI:
10.20473/amnt.v8i2SP.2024.49-57

Available online at:
https://e-journal.unair.ac.id/AMNT

Keywords:
Complementary feeding, Emo-demo method, Maternal behavior, Maternal behavior change

ABSTRACT

Background: Complementary feeding is crucial for children's growth and development, especially between the ages of 6 to 24 months. Adequate nutritional intake during this period can prevent long-term health issues, such as stunting and obesity. However, many mothers struggle with providing appropriate complementary feeding due to a lack of knowledge and inappropriate feeding practices.
Objectives: This study aimed to assess the effectiveness of the Emotional Demonstration (Emo Demo) method in improving maternal knowledge, attitudes, and behaviors related to complementary feeding.
Methods: Using a pretest-posttest control group design, 100 mothers with children aged 6 to 24 months were assigned to one of three groups: control (lecture), demonstration, and Emo Demo. Data were collected via questionnaires and observational assessments at multiple intervals to measure the sustainability of behavior changes. Statistical analyses, including ANOVA and Least Significant Difference (LSD) tests, revealed that the Emo Demo method significantly enhanced knowledge, attitudes, and feeding practices compared to traditional methods.
Results: The study found no significant demographic differences between groups. ANOVA showed significant improvements in knowledge, attitudes, and behavior (p-value<0.05). LSD analysis revealed significant changes in the Emo Demo group (p-value=0.010 for knowledge and behavior, p-value=0.028 for attitude), indicating its effectiveness in improving complementary feeding practices.
Conclusions: Innovative and emotionally engaging methods like Emo Demo can effectively address the challenges of complementary feeding, ultimately contributing to public health efforts to reduce stunting in Indonesia. Further research is recommended to refine educational strategies for improving maternal nutrition practices in diverse communities.

INTRODUCTION

Complementary feeding is a critical phase in a child's growth and development, particularly between the ages of 6 to 24 months. During this stage, children require adequate nutritional intake to support both their physical and cognitive development. According to the World Health Organization (WHO), appropriate complementary feeding helps prevent various long-term health issues, including stunting and obesity[1]. However, many mothers face difficulties in providing adequate complementary feeding, often due to a lack of knowledge, unsupportive attitudes, and inadequate feeding practices[2]. Several studies have shown a significant relationship between maternal feeding practices and the incidence of stunting[3–6]. Influencing factors include maternal knowledge and motivation regarding complementary feeding practices[7–11], education[12–16], maternal working status[17–19], social status[19–23], economic level[24], and cultural beliefs[25,26].

Nutrition education for mothers with children aged 6–23 months is essential to address the issue of stunting by enhancing maternal knowledge and attitudes[27,28]. Nutrition education must be prioritized to improve mothers' understanding of infant and young child feeding guidelines, helping them navigate challenges in providing proper nutrition and promoting effective complementary feeding practices for malnourished children[29]. One promising educational intervention is the Emotional Demonstration (Emo Demo) approach. The Emo Demo method is an innovative educational strategy that employs creative and

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

provocative techniques based on the Behavior Centered Design (BCD) theory[30–33]. This theory posits that behavior change can occur when individuals are exposed to new, challenging, surprising, or stimulating experiences[34,35]. The aim of the Emo Demo method is to drive behavioral change in public health through engaging and stimulating techniques, which is expected to increase knowledge of stunting and complementary feeding among mothers.

Various educational interventions have been implemented to improve maternal knowledge and skills in complementary feeding. However, traditional methods such as lectures or standard demonstrations often fall short in effectively changing maternal attitudes and behaviors[36]. These methods rely heavily on passive knowledge transfer, which does not foster active engagement. Additionally, these approaches may not adequately address the emotional and psychological barriers that mothers face, such as anxiety, fear of inadequacy, or cultural norms that influence feeding practices.

Previous research has demonstrated that interventions involving emotional and interactive engagement can significantly improve understanding and application of complementary feeding practices among mothers[37]. Consequently, the Emo Demo method, as a behavioral communication strategy, is expected to enhance the emotional engagement of mothers with the information provided, fostering better behavior changes in complementary feeding practices.

This study also aimed to compare the Emo Demo method with the traditional lecture and demonstration approaches to assess which was more effective in changing maternal behavior. The findings of this study are expected to contribute significantly to the development of health education programs for mothers, especially in promoting appropriate complementary feeding practices and supporting government efforts to reduce stunting rates in Indonesia. This research is crucial in providing new insights into health education and behavioral interventions and in encouraging better complementary feeding practices among mothers in Indonesia. This study aims to evaluate the effectiveness of the Emotional Demonstration (Emo Demo) method in improving maternal knowledge, attitudes, and behaviors related to complementary feeding.

METHODS

Research Design

This study used a Pretest-Posttest Control Group Design to examine the effectiveness of the Emo Demo method in changing mothers' behavior regarding complementary feeding. The design involved four groups, namely: Control Group 1 (X1) – did not receive any education intervention (pure control group), Control Group 2 (X2) – received education through the lecture method, Treatment Group 1 (X3) – received education through the demonstration method, and Treatment Group 2 (X4) – received education through the Emotional Demonstration (Emo Demo) method. The pretest-posttest design allowed the researchers to measure knowledge, attitudes, and behaviors before and after the intervention and compare the effects of each method across groups. The use of control and treatment groups ensured that changes could be attributed to the specific intervention, controlling for external factors that might influence the outcomes.

Sample Selection

This research was conducted in several *Puskesmas* (community health centers) in Surabaya, Indonesia, from January to October 2019. The target population consisted of mothers with toddlers aged 6 to 24 months attending the *Puskesmas*. A purposive sampling technique was used to recruit participants, selecting mothers willing to participate and providing informed consent. A simple randomization technique was used to allocate participants into four groups: control, lecture, Demonstration, and Emotional Demonstration, with 25 mothers assigned to each group. This randomization ensured that each participant had an equal chance of being in any group. The sample size was determined using power analysis, with $\alpha = 0.05$ and a power level of 80%. An effect size of 0.5 was assumed based on previous research, suggesting moderate effects of behavioral interventions. Calculations indicated a minimum of 25 participants per group was sufficient for detecting significant differences through one-way ANOVA. The sample size was also supported by Cohen (1988), who states that for behavioral research, such a sample size is often adequate for detecting moderate effects. The purposive sampling method ensured the sample reflected the characteristics of the target population, focusing on mothers actively seeking health services at the *Puskesmas* and willing to provide informed consent.

Intervention

Three educational interventions were designed to improve maternal knowledge, attitudes, and practices related to complementary feeding: Lecture Method (X1): In this group, Mothers received education through traditional lectures on complementary feeding, nutritional guidelines, and meal strategies for toddlers. Each session lasted 90 minutes and was delivered four times. This method aimed to improve maternal knowledge through verbal communication and information delivery. Demonstration Method (X2): Mothers in this group participated in practical demonstrations on how to properly prepare and serve complementary feeding. Each demonstration lasted 60 minutes and was conducted three times. The purpose of this method was to enhance mothers' skills in preparing nutritious meals, understanding portion sizes, and ensuring that they could replicate the practices at home. This method engaged mothers through hands-on learning, which is crucial for reinforcing new behaviors. Emo Demo Method (X3): This group received an emotionally engaging intervention incorporating elements of storytelling, role-playing, and visual aids. Each session lasted 120 minutes and was conducted twice. The Behavior Centered Design (BCD) theory was applied, which posits that behavior changes occur in response to emotionally engaging, innovative stimuli. The Emo Demo method was designed to foster a deeper connection between mothers and the information they

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

received, creating an emotional and cognitive shift that could lead to lasting behavior change. By involving emotional narratives and interactive activities, the Emo Demo method aimed to resonate with the mothers' personal experiences, encouraging them to adopt healthier feeding practices.

Data Collection

Data were collected using a combination of quantitative and qualitative methods. A structured questionnaire was the primary instrument for evaluating maternal knowledge, attitudes, and practices related to complementary feeding. The questionnaire underwent pre-testing for validity and reliability to ensure it effectively measured the intended variables. It consisted of four sections: demographic information, maternal knowledge of complementary feeding, attitudes toward complementary feeding, and self-reported feeding practices. In addition to the questionnaire, observational assessments were carried out before and after the interventions to assess changes in feeding practices. Data were collected at four time points: O1 (pre-intervention), O2 (post-intervention), O3 (three months post-intervention), and O4 (six months post-intervention) to track the sustainability of behavior changes over time. This longitudinal approach allowed for the tracking of behavior changes over time and provided insights into the sustainability of these changes. The study's use of mixed methods enabled not only the measurement of changes in knowledge, attitudes, and behaviors, but also a deeper understanding of the reasons behind these changes and the challenges mothers faced in implementing new practices.

Data Analysis

Data processing and analysis were carried out using appropriate statistical software. Descriptive statistics were employed to summarize participants' demographic characteristics and baseline measurements. Frequency distributions were generated for categorical variables, while means and standard deviations were calculated for continuous variables. This initial step helped establish the comparability of groups before the intervention for the quantitative data. Inferential statistics were used to assess the intervention's impact. Independent t-tests with a 95% confidence level (α=0.05) were applied to compare differences between the treatment and control groups. Prior to performing these tests, normality tests were conducted to ensure the data met the assumptions required for parametric testing. To compare the three treatment groups (Lecture, Demonstration, and Emo Demo) on knowledge, attitudes, and practices, an Analysis of Variance (ANOVA) was conducted. In cases of significant differences, post-hoc analyses using the Mann-Whitney test were performed to identify specific group differences. This combination of statistical techniques ensured that both broad trends and detailed differences between the groups were captured.

In addition to the quantitative analysis, qualitative data were collected through participant interviews and focus group discussions. The qualitative data were analyzed using thematic analysis. Transcripts were coded to identify common themes and patterns related to maternal knowledge and practices in complementary feeding. This dual approach allowed for a comprehensive understanding of the intervention's impact, combining numerical trends with participants' insights and experiences.

Validity and Reliability

The validity of the questionnaire was confirmed to ensure it accurately measured the intended constructs: knowledge,
attitudes, and practices. Reliability was assessed using Cronbach's Alpha to ensure internal consistency in the questionnaire responses. A Cronbach's Alpha score above 0.7 was considered acceptable, indicating that the instrument was reliable for measuring the variables of interest. These steps were essential for ensuring the accuracy and trustworthiness of the research findings.

Ethical Considerations

Ethical approval was obtained from the Research Ethics Commission of the Ministry of Health Polytechnic Surabaya No.EA/0366.1/KEPK-Poltekkes_Sby/V/2020, and all participants provided informed consent before taking part in the study. The participants were informed of their rights, including the right to withdraw from the study at any time without any consequences. Confidentiality and anonymity were maintained throughout the research process, ensuring that the participants' identities and personal information were protected.

RESULTS AND DISCUSSIONS

The analysis of Table 1 shows that the homogeneity test for each variable (age, education, and occupation) shows p-values greater than 0.05, indicating no significant differences between the intervention groups. This suggests that the distribution of age, education, and occupation is relatively balanced across the three intervention methods (Lecture, Demonstration, and Emo Demo). Regarding age, most respondents fall within the 20-29 age range (46.7%), followed by those aged 30-39 (42.6%), with only a small percentage under 20 years old (4%) and above 40 years old (6.7%). In terms of education, the majority of respondents have higher education degrees (44%), particularly in the Demonstration group (60%). Respondents with elementary and middle school education are fewer in number. For occupation, most respondents are housewives (56%), with each intervention group having 60% housewives. Civil servants, entrepreneurs, and private employees make up a smaller proportion of respondents. These findings suggest that the groups are well-distributed and homogeneous, ensuring a valid comparison of the intervention results without demographic bias.

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

Table 1. Frequency distribution of respondent characteristics

Parameter	Lectures		Demonstration		Emo Demo		Total		Homogeneity Test
	n	%	n	%	n	%	n	%	
Age in Years									
<20	2	8	0	0	1	4	3	4	0.506
20-29	13	52	12	48	10	40	35	46.7	
30-39	8	32	10	40	14	56	32	42.6	
≥40	2	8	3	12	0	0	5	6.7	
Education									
Primary school	6	24	3	12	6	24	15	20	0.213
Junior high school	4	16	4	16	3	12	11	14.7	
High school	5	20	3	12	8	32	16	21.3	
College	10	40	15	60	8	32	33	44	
Occupation									
Housewives	15	60	12	48	15	60	42	56	0.753
Civil servants	5	20	6	24	3	12	14	18.7	
Self employed	3	12	4	16	3	12	10	13.3	
Private Employe	2	8	3	12	4	16	9	12	

To assess the effect of the treatments on changes in complementary feeding practices, ANOVA was conducted on the delta of knowledge, attitudes, and behavior (the difference between pre- and post-intervention) across the treatment and control groups. The ANOVA results revealed significant differences between all groups (p-value<0.05). To further identify which specific groups differed, a post-hoc analysis was performed using the Least Significant Difference (LSD) test.

Table 2. Results of LSD test on complementary feeding practice on the difference in before and after intervention results between the control group and the three intervention groups

Category	Control Group	Intervention	Least Significant Difference (LSD) Test Value
Knowledge	Control	Demonstration	0.193
		Emo Demo	0.010
Attitude	Control	Demonstration	0.086
		Emo Demo	0.028
Behavior	Control	Demonstration	0.0776
		Emo Demo	0.010

Based on Table 2, the Least Significant Difference (LSD) test was used to compare the means between the control group and the intervention groups (Demonstration and Emo Demo) for the variables of knowledge, attitude, and behavior. The results indicate significant differences between these groups. For the knowledge variable, the LSD test value between the control group and the Demonstration group was 0.193, while the difference between the control group and the Emo Demo group was 0.010. The lower LSD value for the Emo Demo group suggests that this method was more effective in enhancing participants' knowledge of complementary feeding compared to both the Lecture and Demonstration methods. This difference highlights the effectiveness of Emo Demo in increasing participants' understanding of complementary feeding. For the attitude variable, the Emo Demo method demonstrated a significant difference, with an LSD value of 0.028 when compared to the control group. Although the Demonstration method also showed some effects (LSD=0.086), it was less impactful than Emo Demo. Regarding behavior, the LSD value between the control group and the Demonstration group was 0.776, indicating no significant difference. In contrast, Emo Demo produced a significant result with an LSD value of 0.010, highlighting its effectiveness in influencing mothers' behavior in providing complementary feeding.

This study aimed to evaluate the effectiveness of three intervention methods—lectures, demonstrations,

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

and Emo Demo—in improving maternal knowledge, attitudes, and behaviors related to complementary feeding. These methods provide valuable insights into their ability to facilitate behavioral change, particularly regarding appropriate complementary feeding practices. The study design includes a control group and uses ANOVA and the LSD follow-up test to analyze the differences between the groups.

The results, as shown in Table 1, indicate that the demographic characteristics of the respondents, such as age, education, and occupation, are evenly distributed among the intervention groups. This conclusion is supported by the homogeneity test, which revealed a p-value of 0.05, indicating no significant difference in the demographic distribution between the lecture, demonstration, and Emo Demo groups. With this homogeneous distribution, the comparison of intervention results is validated without demographic bias. The majority of respondents were aged 20-29 years (46.7%) and 30-39 years (42.6%), with fewer respondents under 20 or over 40. In terms of education, most respondents had higher education (44%), especially in the Demonstration group, where the percentage reached 60%. This suggests that the majority of mothers in the study had a sufficient level of education, which may influence their ability to absorb and apply information from the interventions. The primary occupation of the respondents was housewife (56%), with an even distribution across all intervention groups.

Analysis of Differences in Knowledge, Attitudes, and Behaviors

To assess the effectiveness of each intervention method in changing maternal knowledge, attitudes, and behaviors related to complementary feeding, a mixed-method approach was employed. The quantitative results from the ANOVA and LSD tests showed significant differences between the groups, while qualitative data collected from interviews and focus group discussions (FGDs) provided additional insights into these changes.

Knowledge

The results of the quantitative analysis using the LSD test indicate that the Emo Demo method is significantly more effective in enhancing knowledge compared to the demonstration and lecture methods. The LSD value for the Emo Demo is 0.010, showing a significant difference from the control group, whereas the demonstration group exhibits no significant difference (LSD value=0.193). This suggests that the emotional approach utilized in Emo Demo effectively improves mothers' understanding of the importance of complementary breastfeeding. The emotional engagement involved enables participants to better absorb the information, fostering improved retention and application compared to traditional methods.

Qualitative data gathered from interviews and focus group discussions further supports these findings. Many mothers reported that the emotional narratives shared during the Emo Demo sessions made the information more relatable and memorable. One participant noted, *"The stories shared during the Emo Demo really stuck with me. I could relate to the characters and their experiences, making the information easier to remember and apply"*. This emotional connection not only enhanced understanding but also motivated mothers to implement appropriate complementary feeding practices, emphasizing that the knowledge gained is not only temporary but also leads to lasting behavioral change.

Attitude

The Emo Demo method demonstrated significant improvements in maternal attitudes toward MP-breastfeeding, with an LSD value of 0.028 compared to the control group. In contrast, the demonstration method showed less impactful results (LSD=0.086). This indicates that the Emo Demo not only enhances knowledge but also effectively shifts mothers' attitudes, which is crucial for fostering long-term behavioral changes. The qualitative data further underscores this finding, revealing that the emotional connections formed during the Emo Demo sessions were instrumental in shaping positive attitudes. Many mothers reported that the interactive and relatable nature of the sessions prompted them to reflect on and reconsider their previous feeding practices. One participant noted, *"Seeing the impact on children's health in the role-play made me realize how important it is to change my approach to feeding my child".* This emotional engagement not only facilitated a shift in attitudes but also strengthened the link between positive attitudes and desired behavioral outcomes. It confirms that the Emo Demo method had a more profound influence on attitude changes compared to traditional demonstration approaches.

Behavior

In the behavioral variable, the Emo Demo method demonstrated significant effectiveness with an LSD value of 0.010, indicating a notable difference from the control group. In contrast, the demonstration method showed no significant change (LSD value=0.776), highlighting that while the demonstration method may improve knowledge and attitudes, it is the emotional engagement fostered by Emo Demo that encourages real behavior change. Quantitative results reveal that mothers who participated in Emo Demo were more successful in implementing appropriate complementary breastfeeding practices compared to those who attended lectures or demonstrations.

Qualitative data further illuminate these findings, as numerous mothers in the Emo Demo group reported adopting new feeding practices inspired by the emotional and practical lessons they encountered during the intervention. One participant shared, *"After participating in Emo Demo, I felt more motivated to follow through with what I learned because the sessions made me feel responsible for my child's health. It wasn't just about learning but about feeling the need to act"*. This strong emotional connection, which was less pronounced in the lecture and demonstration groups, significantly facilitated genuine and lasting behavior changes, effectively reinforcing the quantitative outcomes of the study.

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

This study confirms that the Emo Demo method is the most effective among the three intervention methods in improving maternal knowledge, attitudes, and behaviors related to complementary feeding. Emo Demo is a communication-based behavior change strategy that combines the theories of Behavior Communication Change (BCC) and Behavior Communication Definition (BCD)[38]. BCC emphasizes interactive communication between individuals, groups, or communities, aiming to develop strategies that promote positive behavior change. On the other hand, BCD focuses on using an individual's psychological constructs—such as feelings, needs, and thoughts—to influence behavior. The effectiveness of Emo Demo is evident in its ability to engage the emotional and psychological aspects of mothers, allowing them to respond more deeply to the information provided. This not only enhances the mothers' knowledge but also significantly impacts their attitudes and behaviors. In the context of complementary feeding, behavior change is the ultimate goal of the intervention, and Emo Demo has proven to be the most successful in achieving this outcome. The emotional approach used in Emo Demo enables mothers to better understand and feel the importance of correct complementary feeding practices. For example, when mothers receive information conveyed through an emotional approach, they tend to internalize it and apply it to their daily lives. This approach incorporates emotional elements, such as a sense of responsibility for the child's health, which reinforces their motivation to change behavior[39].

While this study provides compelling evidence regarding the effectiveness of the Emo Demo method, several limitations should be considered. First, the study was conducted with a relatively small sample size and was limited to a specific region, which may limit the generalizability of the results to a broader population. Additionally, demographic characteristics such as age, education, and occupation may have influenced the intervention's outcomes, although homogeneity tests suggest that the groups were balanced in these areas. Second, the study relied on self-report measurements to assess changes in knowledge, attitudes, and behaviors, which can be subject to bias. For example, mothers may provide answers that align with socially expected responses, particularly after engaging in emotionally driven interventions. To improve the accuracy of the data, more objective methods such as direct observation or third-party assessments could be used. Furthermore, the study did not assess the sustainability of the observed behavior changes after the intervention. Changes resulting from interventions like Emo Demo may not be long-lasting without continued support. Future research should involve long-term follow-up measurements to determine whether the changes are sustained over time.

Other study limitations including a small sample size, the potential for self-report bias, and the absence of measures to assess the sustainability of behavior change. Future research should incorporate long-term follow-up and employ more objective evaluation methods to validate the findings. Despite these limitations, the results provide strong evidence supporting the Emo Demo method as an effective intervention in educational programs aimed at improving complementary feeding practices among mothers.

CONCLUSIONS

The results of this study indicate that the Emo Demo method is more effective than the Lecture and Demonstration methods in enhancing mothers' knowledge, attitudes, and behaviors regarding complementary feeding. The LSD test results show significant differences in all three variables (knowledge, attitude, and behavior) for the Emo Demo group compared to the control group (LSD value=0.010). This suggests that the emotional approach utilized in Emo Demo is more effective in driving substantial changes across these areas compared to the other interventions. In contrast, the Demonstration and Lecture groups did not show significant improvements in most of the variables. By incorporating direct communication and psychological elements such as feelings and needs, Emo Demo effectively promotes positive behavior change. Therefore, Emo Demo is recommended as a more effective intervention in educational programs for mothers on complementary feeding.

ACKNOWLEDGEMENT

The authors would like to thank the Director of Poltekkes Kemenkes Surabaya, the Head of the Research and Community Service Center, and the Head of the Nutrition Department at Poltekkes Kemenkes Surabaya, as well as to all the research respondents.

CONFLICT OF INTEREST AND FUNDING DISCLOSURE

The authors have no conflicts of interest relevant to this article. This research is a research output from the superior basic research scheme of higher education institutions organized by the Surabaya Ministry of Health Polytechnic of Health and funding the number HK.01.07/I/02712/2019.

AUTHOR CONTRIBUTIONS

AI: Conceptualization, methodology, and writing—original draft; contributed to the design of the study and the development of the educational interventions. ISE: Supervision, formal analysis, and writing—review & editing; ensured the integrity of the research process and contributed to the critical revisions of the manuscript. IS: Data curation, investigation, and methodology; assisted in data collection and analysis, as well as the implementation of the Emo Demo method in the study. JC: Writing—original draft and data collection; participated in drafting the manuscript and gathering data from the study participants. KS: Resources and project administration; managed project logistics and provided necessary resources for conducting the research. LW: Writing—review & editing and visualization; contributed to the analysis of results and helped refine the presentation of data within the manuscript.

REFERENCES

1. World Health Organization. *WHO Guideline for complementary feeding of infants and young children 6–23 months of age*. *2023* (2023).

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

2. Herman, H., Mansur, A. R. & Chang, Y.-J. Factors associated with appropriate complementary feeding: A scoping review. *J. Pediatr. Nurs.* **71**, e75–e89 (2023) https://doi.org/10.1016/j.pedn.2023.04.017.
3. Rahmatika, Q. T., Mulyono, S. & Rahmadiyah, D. C. Feeding practices and child stunting during the COVID-19 pandemic: a qualitative study. *J. Public Health Africa* **14**, 5 (2023) https://doi.org/10.4081/jphia.2023.2580.
4. Christian, A. K., Afful-Dadzie, E. & Marquis, G. S. Infant and young child feeding practices are associated with childhood anaemia and stunting in sub-Saharan Africa. *BMC Nutr.* **9**, 9 (2023) : https://doi.org/10.1186/s40795-022-00667-9.
5. Astuti, Y., Paek, S. C., Meemon, N. & Marohabutr, T. Analysis of traditional feeding practices and stunting among children aged 6 to 59 months in Karanganyar District, Central Java Province, Indonesia. *BMC Pediatr.* **24**, 29 (2024) https://doi.org/10.1186/s12887-023-04486-0.
6. Kubeka, Z. & Modjadji, P. Association of Stunting with Socio-Demographic Factors and Feeding Practices among Children under Two Years in Informal Settlements in Gauteng, South Africa. *Children* **10**, 1280 (2023) https://doi.org/10.3390/children10081280.
7. Rakotomanana, H. *et al.* Maternal Knowledge, Attitudes, and Practices of Complementary Feeding and Child Undernutrition in the Vakinankaratra Region of Madagascar: A Mixed-Methods Study. *Curr. Dev. Nutr.* **4**, nzaa162 (2020) https://doi.org/10.1093/cdn/nzaa162
8. Mutuku, J. N., Ochola, S. & Osero, J. Maternal Knowledge and Complementary Feeding Practices and their Relationship with Nutritional Status Among Children 6-23 Months Old in Pastoral Community of Marsabit County, Kenya: A Cross-Sectional Study. *Curr. Res. Nutr. Food Sci. J.* **8**, 862–876 (2020) https://doi.org/10.12944/CRNFSJ.8.3.17.
9. Maingi, M., Kimiywe, J. & Iron-Segev, S. Maternal knowledge in complementary feeding following Baby Friendly Community Initiative in Koibatek, Kenya. *Matern. Child Nutr.* **16**, (2020) : https://doi.org/10.1111/mcn.13027.
10. Natasha Nadeem, Muhammad Ali, Maryam Javaid Chattha, Momina Ahmed & Mushtaq, I. Maternal hygiene and knowledge on complementary feeding during infancy and early childhood in Lahore, Pakistan. *J. Pak. Med. Assoc.* **74**, 416–421 (2024) https://doi.org/10.47391/JPMA.8351.
11. Ahmad, A., Madanijah, S., Dwiriani, C. M. & Kolopaking, R. Determinant Factors of Maternal Knowledge on Appropriate Complementary Feeding of Children Aged 6–23 Months in Aceh. *J. Nutr. Sci. Vitaminol. (Tokyo).* **66**, S239–S243 (2020) https://doi.org/10.3177/jnsv.66.S239.
12. Komakech, J. J. *et al.* A Peer-Led Integrated Nutrition Education Intervention through Care Groups Improved Complementary Feeding of Infants in Postemergency Settlements in the West-Nile Region in Uganda: A Cluster Randomized Trial. *Curr. Dev. Nutr.* **7**, 100042 (2023) https://doi.org/10.1016/j.cdnut.2023.100042.
13. Wu, Q. *et al.* Complementary feeding practices for children aged 6–23 months in early childhood education institutions in urban China: A cross-sectional study. *J. Glob. Health* **14**, 04043 (2024) https://doi.org/10.7189/jogh.14.04043.
14. Mousavi Ezmareh, F., Bostani Khalesi, Z., Jafarzadeh Kenarsari, F. & Maroufizadeh, S. The impact of complementary feeding education for mothers using mobile phone applications on the anthropometric indices of Iranian infants. *Digit. Heal.* **10**, (2024) https://doi.org/10.1177/20552076241272558.
15. Mallesh, V. & Patil, S. S. Effectiveness of Nutrition Education as Intervention on Complementary Feeding Practices & Growth of Children in Rural Area. *Natl. J. Community Med.* **15**, 379–388 (2024) https://doi.org/10.55489/njcm.150520243817.
16. Arumsari, R. W., Priyantini, S. & Wahyuningsih, H. Efek edukasi MPASI metode modifikasi terhadap pertumbuhan Bayi 6-7 bulan: Studi eksperimental di posyandu Kecamatan Karangtengah, Kabupaten Demak. *Amerta Nutr.* **7**, 589–595 (2023) https://doi.org/10.20473/amnt.v7i4.2023.589-595.
17. Zheng, T. *et al.* The prevalence, perceptions and behaviors associated with traditional/complementary medicine use by breastfeeding women living in Macau: a cross-sectional survey study. *BMC Complement. Med. Ther.* **20**, 122 (2020) https://doi.org/10.1186/s12906-020-02921-8.
18. Molavi Vardanjani, H., Salehi, Z., Alembizar, F., Cramer, H. & Pasalar, M. Prevalence and the Determinants of Traditional, Complementary, and Integrative Medicine Use Among Breastfeeding Mothers: A Cross-Sectional Study. *J. Integr. Complement. Med.* **28**, 67–76 (2022) https://doi.org/10.1089/jicm.2021.0270.
19. Orhan, Ö. Evaluation of breastfeeding behaviors and complementary feeding practices of Turkish and Syrian refugee mothers. *Arch. Argent.*

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

Pediatr. **122**, (2024) https://doi.org/10.5546/aap.2023-10083.eng.

20. Mbhenyane, X. *et al.* Breastfeeding and complementary feeding practices of mothers exposed to the Baby-Friendly Hospital Initiative in Limpopo Province. *South African J. Child Heal.* **17**, 78–84 (2023) https://doi.org/10.7196/SAJCH.2023.v17i2.1917.
21. Bustos-Arriagada, E., Etchegaray-Armijo, K., Liberona-Ortiz, Á. & Duarte-Silva, L. Breastfeeding, Complementary Feeding, Physical Activity, Screen Use, and Hours of Sleep in Children under 2 Years during Lockdown by the COVID-19 Pandemic in Chile. *Children* **9**, 819 (2022) https://doi.org/10.3390/children9060819.
22. Zakharova, I. N., Abolyan, L. V., Sugyan, N. G. & Kuchina, A. E. Protecting, promoting, and supporting breastfeeding practices and the introduction of complementary foods. *Meditsinskiy Sov. = Med. Counc.* **2021**, 29–35 (2021) https://doi.org/10.21518/2079701X-2021-11-29-35.
23. Libuda, L., Hilbig, A., Berber-Al-Tawil, S., Kalhoff, H. & Kersting, M. Association between full breastfeeding, timing of complementary food introduction, and iron status in infancy in Germany: results of a secondary analysis of a randomized trial. *Eur. J. Nutr.* **57**, 523–531 (2018) https://doi.org/10.1007/s00394-016-1335-5.
24. Scarpa, G. *et al.* Socio-economic and environmental factors affecting breastfeeding and complementary feeding practices among Batwa and Bakiga communities in south-western Uganda. *PLOS Glob. Public Heal.* **2**, e0000144 (2022) https://doi.org/10.1371/journal.pgph.0000144.
25. Raymundo, G. P. *et al.* Influences in food selection during complementary feeding in breastfeeding infants: A systematic review and metasynthesis of qualitative studies. *Appetite* **202**, 107626 (2024) https://doi.org/10.1016/j.appet.2024.107626.
26. Bustamante Llatas, J. P. *et al.* Lactancia materna, alimentación complementaria y suplementación con multimicronutrientes: Perspectiva intercultural. *Cult. los Cuid. Rev. Enfermería y Humanidades* **23**, 231 (2019) https://doi.org/10.14198/cuid.2019.54.20.
27. Anwar, K. *et al.* The effect of cadre assistance on the knowledge and attitudes of mothers regarding breastfeeding, complementary feeding, and monitoring children's growth. *J. Public Heal. Dev.* **22**, 92–106 (2024) https://doi.org/10.55131/jphd/2024/220208.
28. Uusimäki, K., Schneider, L., Lubeka, C., Kimiwye, J. & Mutanen, M. Mothers' knowledge and practices on breastfeeding and complementary feeding in an urban slum area and rural area in Kenya: A cross-sectional interview study. *J. Child Heal. Care* **27**, 612–627 (2023) https://doi.org/10.1177/13674935221083451.
29. Markos, M., Samuel, B. & Challa, A. Minimum acceptable diet and associated factors among 6–23 months old children enrolled in outpatient therapeutic program in the Tulla district, Sidama region, Ethiopia: a community-based cross-sectional study. *J. Heal. Popul. Nutr.* **43**, 106 (2024) https://doi.org/10.1186/s41043-024-00581-9.
30. Rahayu, N. I., Muktiarni, M., Suherman, A. & Ismail, A. Health promoting lifestyle in educational setting: an intervention study in the universities. *J. Educ. Learn.* **18**, 1335–1340 (2024) https://doi.org/10.11591/edulearn.v18i4.21141.
31. Sundstrom, B. *et al.* "Do you want a period?" Launching and evaluating a brief contraceptive decision-making educational intervention. *Sex. Reprod. Healthc.* **37**, 100887 (2023) https://doi.org/10.1016/j.srhc.2023.100887.
32. Martins Esteves, I., Silva Coelho, M., Neves, H., Pestana-Santos, M. & Santos, M. R. Effectiveness of family-centred educational interventions in the anxiety, pain and behaviours of children/adolescents and their parents' anxiety in the perioperative period: a systematic review and meta-analysis. *J. Perioper. Nurs.* **35**, (2022) https://doi.org/10.26550/2209-1092.1153.
33. Torres-Pereda, P., Parra-Tapia, E., Rodríguez, M. A., Félix-Arellano, E. & Riojas-Rodríguez, H. Impact of an intervention for reducing waste through educational strategy: A Mexican case study, what works, and why? *Waste Manag.* **114**, 183–195 (2020) https://doi.org/10.1016/j.wasman.2020.06.027.
34. Costa, S., Guambe, B., Boaventura, C. & Nordhagen, S. Leveraging Emotion for Behavior Change: Lessons from Implementation of the "Emo-Demo" Behavior Change Technique in Rural Mozambique. *J. Health Commun.* **28**, 78–86 (2023) https://doi.org/10.1080/10810730.2023.2231888.
35. Larissa, U. & Rachmayanti, R. D. Emo Demo Education on Improving Maternal Knowledge. *Indones. J. Public Heal.* **17**, 451–461 (2022) https://doi.org/10.20473/ijph.v17i3.2022.451-461.
36. Sandhi, A., Nguyen, C. T. T., Lin-Lewry, M., Lee, G. T. & Kuo, S.-Y. Effectiveness of breastfeeding educational interventions to improve

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*

breastfeeding knowledge, attitudes, and skills among nursing, midwifery, and medical students: A systematic review and meta-analysis. *Nurse Educ. Today* **126**, 105813 (2023) https://doi.org/10.1016/j.nedt.2023.105813.

37. Maleki, A., Faghihzadeh, E. & Youseflu, S. The Effect of Educational Intervention on Improvement of Breastfeeding Self-Efficacy: A Systematic Review and Meta-Analysis. *Obstet. Gynecol. Int.* **2021**, 1–18 (2021) https://doi.org/10.1155/2021/5522229.

38. Azhari, M. A. & Fayasari, A. Pengaruh edukasi gizi dengan media ceramah dan video animasi terhadap pengetahuan sikap dan perilaku sarapan serta konsumsi sayur buah. *AcTion Aceh Nutr. J.* **5**, 55 (2020).

39. Knapp, P., Benhebil, N., Evans, E. & Moe-Byrne, T. The effectiveness of video animations in the education of healthcare practitioners and student practitioners: a systematic review of trials. *Perspect. Med. Educ.* **11**, 309–315 (2022) https://doi.org/10.1007/s40037-022-00736-6.

How to cite: *Intiyati, A., Edi, I. S., Soesanti, I., Christianingsih, J., Suprihatin, K., & Widarti, L. (2024). Enhancing Maternal Knowledge and Practices in Complementary Feeding through Emotional Demonstration Methods: Meningkatkan Pengetahuan dan Praktik Ibu dalam Pemberian Makanan Pendamping ASI melalui Metode Demonstrasi Emosional. Amerta Nutrition, 8(2SP), 49–57.*