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ENHANCING EXCLUSIVE BREASTFEEDING OUTCOMES THROUGH RUMAH ASIK: COMMUNITY-BASED COUNSELING INTERVENTION IN MAKASSAR, INDONESIA

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ABSTRACT

Background: Exclusive breastfeeding coverage remains suboptimal, partly due to limited family involvement and counseling that primarily targets mothers. Family-based interventions such as Rumah ASIK may improve breastfeeding outcomes; however, evidence on their effectiveness is still limited. Objective: This study aimed to examine the effect of counseling on breastfeeding practices, complementary feeding, infant health status, and growth. Methods: A pre-experimental study with a post-test only control group design was conducted in Makassar, Indonesia. A total of 50 participants were included, consisting of 20 mothers in the intervention group and 30 in the control group. The intervention involved structured counseling provided during pregnancy and early infancy. Data on exclusive breastfeeding, complementary feeding practices, infant health status, and growth were collected using questionnaires and interviews. Statistical analyses were performed using Chi-square and Mann–Whitney tests with a significance level of $p<0.05$. Results: The prevalence of exclusive breastfeeding was significantly higher in the intervention group compared to the control group ($p<0.05$). However, no significant differences were observed in complementary feeding practices, infant health status, or growth between the two groups. Conclusion: Counseling through the Rumah ASIK approach effectively improves the prevalence of exclusive breastfeeding but does not significantly influence complementary feeding practices, infant health status, or growth.

Kata Kunci:
Konseling;
Stunting;
ASI Eksklusif;
Makanan Pendamping

ABSTRAK

Latar Belakang: Konseling yang diberikan di fasilitas kesehatan saat ini umumnya tidak melibatkan anggota keluarga lain, sehingga ibu seringkali tidak mendapatkan dukungan optimal. Dukungan keluarga memainkan peran penting dalam keberhasilan pemberian ASI. Konseling yang diberikan kepada ibu dan keluarga dapat meningkatkan pengetahuan dan dukungan untuk keberhasilan pemberian ASI. Konseling dapat dilakukan oleh konselor ASI di fasilitas kesehatan. Tujuan: Menganalisis pengaruh konseling terhadap pemberian ASI, pemberian makanan pendamping, status kesehatan, dan pertumbuhan bayi. Metode: Penelitian ini merupakan penelitian pra-eksperimental dengan desain post-test only control group. Kelompok intervensi adalah ibu yang mendapatkan konseling oleh mahasiswa, sedangkan kelompok kontrol adalah ibu yang mengunjungi puskesmas. Penelitian dievaluasi dengan membandingkan praktik pemberian ASI, pemberian makanan pendamping, status kesehatan, dan pertumbuhan bayi pada kedua kelompok. Pengaruh konseling terhadap praktik pemberian ASI, praktik pemberian makanan pendamping, pertumbuhan, dan status kesehatan bayi dianalisis menggunakan uji Chi-Square dan Mann-Whitney. Hasil: Hasil penelitian menunjukkan perbedaan yang signifikan dalam pemberian ASI eksklusif antara kelompok kontrol dan kelompok intervensi. Tidak terdapat perbedaan signifikan dalam praktik pemberian makanan pendamping, status kesehatan bayi, dan pertumbuhan bayi antara kedua kelompok. Kesimpulan: Studi ini menunjukkan bahwa konseling dapat meningkatkan cakupan pemberian ASI eksklusif, tetapi tidak memengaruhi praktik pemberian makanan pendamping, status kesehatan bayi, dan pertumbuhan.

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INTRODUCTION

The results of the Indonesian Health Survey (2023) showed that the proportion of children aged 0–23 months who had been breastfed in South Sulawesi was 93.4%, slightly lower than the national figure of 95.8%. There is a tendency that the older the age, the lower the proportion of children who are breastfed, decreasing from 96.7% at the age of 0–5 months to 95.5% at the age of 12–23 months (Chyntaka & Putri, 2020).

The success of breastfeeding is influenced by knowledge, family support, and assistance from trained personnel. Study found that husband's support contributes to the success of exclusive breastfeeding. Low knowledge and limited assistance from trained personnel are factors that contribute to the low coverage

of exclusive breastfeeding, in addition to family support (Nurfatimah et al., 2019). The results of Nurfatimah et al. (2019) stated that knowledge is the most influential factor in exclusive breastfeeding. Knowledge can be obtained through counseling activities carried out by health workers who have undergone special training. Breastfeeding counselors play a very important role in supporting the success of exclusive breastfeeding; however, in reality, they experience obstacles in their work (Damanik et al., 2015). The results of Damanik et al. (2015) showed a lack of motivation in conducting breastfeeding counseling due to limited supervision from superiors and insufficient funding (Amir et al., 2022). Aswita et al. (2020) stated that counselor knowledge and skills are still low (Fresianly Bagaray et al., 2020). This is because there are no personnel specifically assigned as breastfeeding counselors, as they also have primary duties as nutritionists, midwives, and nurses (Dwi Rani Sukma, 2018).

Based on the description above, it is necessary to establish a counselor team that provides counseling to pregnant women. Health students have the potential to become support personnel in public health education after receiving structured training. Previous studies have shown that the involvement of cadres or trained non-professional staff can increase the coverage of promotive-preventive interventions, including breastfeeding counseling. Through counselor training, it is expected that assistance can be provided in the form of counseling for pregnant women through Rumah ASIK. Rumah ASIK is a term for a household where mothers receive counseling regarding exclusive breastfeeding, complementary feeding, and infant health from pregnancy until the child reaches two years of age. Rumah ASIK is a community-based intervention model that provides structured counseling services to mothers from pregnancy until their child is 24 months old. This includes exclusive breastfeeding education, complementary feeding, and infant health and growth monitoring. This program is conducted by trained nutrition students under the supervision of professional lecturers.

METHOD

Type of Research

This study employed a pre-experimental design using a post-test only control group approach. The intervention group received structured breastfeeding counseling starting from pregnancy until early infancy, while the control group consisted of mothers receiving routine healthcare services without additional counseling. The outcomes were evaluated by comparing exclusive breastfeeding practices, complementary feeding practices, infant health status, and growth between the two groups.

Place and Time of Research

The study was conducted in Makassar City, specifically in the working area of the Sudiang Health Center as the treatment group and the Paccerakkang Health Center as the control group. The study was carried out from 2022 to 2024.

Population and Sample

The population consisted of all pregnant women in the working areas of Sudiang and Paccerakkang Health Centers in Makassar City. The sample for the intervention group was pregnant women selected from the Sudiang working area, with the criteria of being permanent residents in the Sudiang Health Center working area and willing to participate in the study until the child reached 2 years of age. The control group consisted of mothers who had infants aged 6 months, who routinely visited the health center and were permanent residents in the Paccerakkang Health Center working area. Participants were selected using purposive sampling. The research was carried out in several stages.

The first stage was training in Infant and Young Child Feeding Counseling for Semester II students of the Applied Nutrition and Dietetics Undergraduate Study Program, Nutrition Department, Poltekkes Kemenkes Makassar. During the study, a loss to follow-up occurred in the intervention group, resulting in a final sample of 20 participants from the initial 30 (attrition rate: 33%). This attrition may introduce potential bias, particularly if the characteristics of those lost differed systematically from those who completed the study. To minimize this bias, baseline characteristics between groups were compared and showed no significant differences ($p>0.05$). The control group consisted of 30 participants. Counseling in the intervention group was carried out 10 times, namely: nutrition for pregnant women and breastfeeding preparation delivered 2 times during pregnancy; breastfeeding and infant growth delivered 6 times when the baby was aged 0–5 months; and complementary feeding (MP-ASI) delivered at 6 and 8 months. At the

end of the study, a post-test was conducted by measuring sample characteristics, breastfeeding practices, complementary feeding practices, infant health status, and growth in both groups.

Data Collection

Data were collected using structured questionnaires that had been previously validated in similar populations. The instruments assessed breastfeeding practices, complementary feeding, and infant health status. Reliability testing showed acceptable internal consistency (Cronbach's alpha >0.70). Anthropometric measurements were conducted using standardized procedures to assess infant growth.

Data Analysis and Processing

After data collection, data processing and analysis were carried out using the independent samples t-test, Mann–Whitney test, and Chi-square test according to the type and normality of the data obtained from the measured variables and the research hypothesis. Data analysis was performed using SPSS with a significance level of 0.05. Potential confounding variables such as maternal education, occupation, parity, mode of delivery, and infant birth weight were assessed and compared between groups. Although no significant differences were observed ($p>0.05$), the absence of randomization limits the ability to fully control for confounding factors.

RESULT

The number of samples in the intervention group was 20 participants and in the control group was 30 participants. Differences in sample characteristics based on toddler gender, mother's education, mother's occupation, father's occupation, delivery process, iron tablet consumption status, birth weight, number of breastfed children, and number of living children did not show significant differences between the control and intervention groups ($p>0.05$). This indicates that the characteristics of the two groups were comparable.

Table 1. Differences in Sample Characteristics

Toddler Gender	**Control Group**		**Intervention Group**		**p***
	n	**%**	**n**	**%**	
Male	16	53.3	10	50	0.817
Female	14	46.7	10	50	
Mother's Education					
No	1	3.3	0	0	0.831
Elementary School	5	16.7	2	10	
Junior High School	5	16.7	5	25	
High School	10	33.3	7	35	
College	9	30	6	30	
Mother's occupation					
Housewife	26	86.7	17	85	0.538
Working	2	6.7	3	15	
Private Business	1	3.3	0	0	
Self-Employed	1	3.3	0	0	
Father's occupation					
Shipping	1	3.3	0	0	0.504
Self-Employed	15	50	12	60	
Daily Laborer	8	26.7	3	15	
Private Employee	3	10	5	25	
Honorary	1	3.3	0	0	
Nurse	1	3.3	0	0	
Self-Employed	1	3.3	0	0	
The Process of Childbirth					
Normal	23	76.7	12	60	0.208
Cesarean Section	7	23.3	8	40	

Fe Tablet Drinking Status					
Enough	9	30	10	50	0.153
No	21	70	10	50	
Birth Weight					
Normal	21	70	17	85	0.224
Low	9	30	3	15	
Number of Children Breastfed	Mean	Max	Min	U	p
Control	1.46±1.31	5	0	269.5	0.526
Intervention	1.5±0.95	3	0		
Number of Living Children					
Control	2.37±1.63	9	1	251.5	0.316
Intervention	2.45±0.94	4	1		

U = Mann Whitney Test
p = Chi-square test/Mann Whitney

Table 2. Breastfeeding Practices

Breastfeeding Assistance During Labor	**Control Group**		**Intervention Group**		**p***
	n	**%**	**n**	**%**	
Yes	5	16.7	9	45	0.029
No	25	83.3	11	55	
Breastfeeding Information Category					
There is	14	46.7	20	100	0.000
There is not	16	53.3	0	0	
Prelacteal Feeding					
Yes	8	26.7	3	15	0.329
No	22	73.3	17	85	
Early Breastfeeding Initiation Status					
Early Initiation of Breastfeeding	0	0	2	10	0.077
No	30	100	18	90	
Exclusive Breastfeeding Status					
Exclusive Breastfeeding	10	33.3	13	65	0.028
No	20	66.7	7	35	
Total	30	100	20	100	

p = significance of chi-square test

Based on Table 2, breastfeeding practices related to breastfeeding assistance during labor differed significantly between the control and intervention groups ($p<0.05$), as a higher proportion of the control group did not receive breastfeeding assistance during labor (83.3%). Breastfeeding assistance during labor and access to breastfeeding information also differed significantly between the two groups ($p<0.05$), as 100% of the intervention group received breastfeeding information during counseling. Prelactal feeding and early initiation of breastfeeding (IMD) status did not differ significantly ($p>0.05$) between the intervention and control groups. This is because the majority in both groups did not practice prelacteal feeding (70–83%), and most respondents in both groups did not perform early initiation of breastfeeding (90–100%). For exclusive breastfeeding status, there was a significant difference ($p<0.05$) between the control and intervention groups. The intervention group showed a higher proportion of exclusive breastfeeding (65%), while in the control group, 66.7% of mothers did not practice exclusive breastfeeding.

Figure 1 shows that the majority of respondents provided breast milk for up to 6 months in each group. In the control group, there was an increase in breastfeeding up to 3 months, followed by a decrease from the fourth to the sixth month. In the intervention group, there was a decrease in the number of respondents who exclusively provided breast milk in the fifth month.

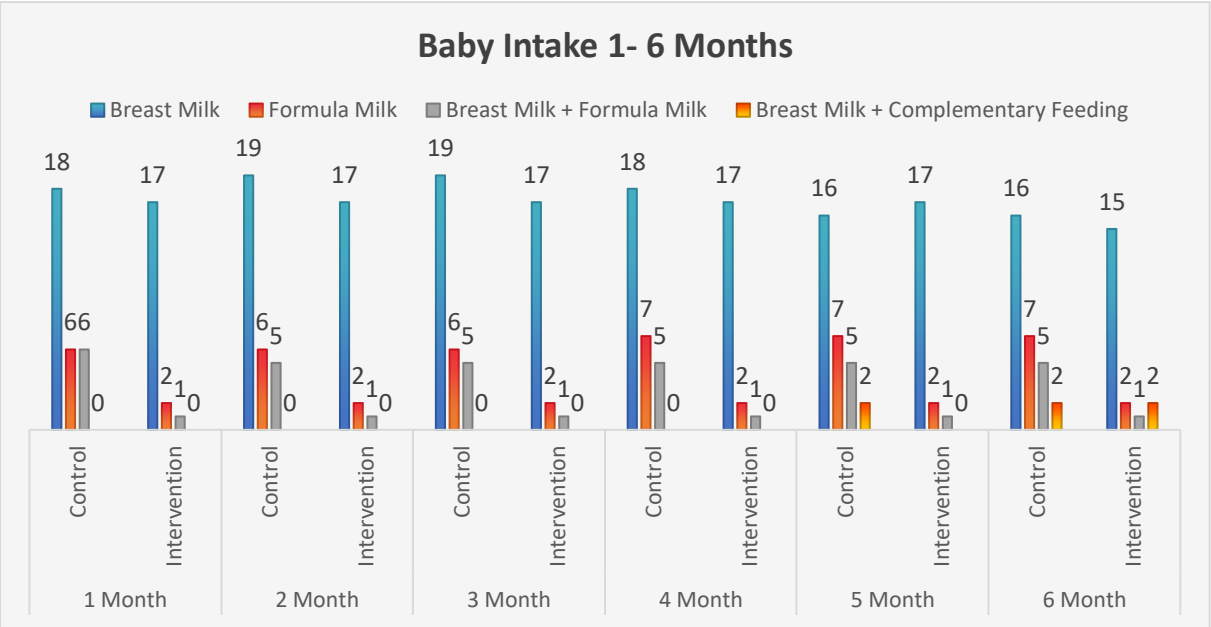

Figure 1. Baby Intake 1 - 6 Months

DISCUSSION

The findings of this study indicate that the intervention group had a significantly higher prevalence of exclusive breastfeeding compared to the control group, suggesting that structured counseling combined with continuous support is effective in improving breastfeeding practices. This effect is likely mediated through increased maternal knowledge, self-efficacy, and perceived social support, which are key determinants of breastfeeding behavior (Nurfatimah et al., 2019). In contrast, no significant differences were observed in complementary feeding practices, infant health status, or growth, indicating that the impact of counseling may be limited to early feeding behaviors and may require longer follow-up or additional interventions to influence broader outcomes.

Baseline characteristics such as toddler gender, maternal education, and maternal occupation were not significantly different between groups and were not associated with exclusive breastfeeding in this study. This suggests that individual sociodemographic factors alone may not be sufficient to influence breastfeeding behavior without adequate support systems. Although education is theoretically linked to knowledge acquisition and health behavior (Salsabila & Ismarwati, 2023), the present findings support previous evidence that social and environmental factors, including family support and access to counseling, may play a more dominant role (Angkut, 2020; Dwi Rani Sukma, 2018). Similarly, maternal employment did not show a significant relationship with breastfeeding practices, indicating that enabling conditions such as flexibility and support may be more important than employment status itself (Maharani & Khumairoh, 2023).

The role of breastfeeding support during delivery was evident, as mothers who received assistance were more likely to practice exclusive breastfeeding. This finding highlights the importance of early support in facilitating breastfeeding initiation and continuation. The limited availability of trained health personnel and inadequate institutional support may reduce the effectiveness of such assistance, thereby affecting breastfeeding outcomes (Maharani & Khumairoh, 2023; Manopo et al., 2019; Khasanah et al., 2023). In this study, the intervention group benefited from additional counseling provided by trained students, which likely contributed to improved breastfeeding practices by reinforcing knowledge and providing practical guidance (BKPK, 2023).

The mechanism by which counseling improves exclusive breastfeeding can be explained through several pathways. First, increased knowledge reduces misconceptions and improves attitudes toward breastfeeding. Second, repeated counseling enhances maternal confidence in managing breastfeeding challenges. Third, practical guidance and continuous support facilitate the adoption and maintenance of

behavior (Safitri & Puspitasari, 2019). These mechanisms may explain why the intervention group demonstrated better breastfeeding outcomes compared to the control group.

Prelacteal feeding practices and early initiation of breastfeeding did not differ significantly between groups, which may reflect the influence of cultural practices and health system factors. National data indicate that prelacteal feeding is often associated with delayed milk production, separation of mother and infant after delivery (separate care), and breastfeeding difficulties (BKPK, 2024). These structural and behavioral barriers may limit the effectiveness of counseling alone, particularly if not addressed through broader system-level interventions.

Despite these findings, this study has several important limitations. The use of a pre-experimental post-test only design limits the ability to establish causal relationships between the intervention and outcomes. In addition, the relatively high attrition rate in the intervention group may introduce selection bias, as participants who completed the study may differ from those who dropped out. Although baseline characteristics appeared comparable, the absence of randomization means that residual confounding cannot be fully excluded. These limitations may weaken the internal validity of the study and should be considered when interpreting the results.

Overall, the findings suggest that community-based counseling interventions involving trained students can improve exclusive breastfeeding practices. However, broader impacts on complementary feeding, infant health, and growth may require more comprehensive and sustained interventions that address both behavioral and structural determinants.

CONCLUSION AND SUGGESTION

Counseling through the Rumah ASIK model significantly increased the prevalence of exclusive breastfeeding but did not affect complementary feeding practices, infant health status, or growth. Strengthening community-based counseling with longer follow-up and greater family involvement is recommended to improve broader child nutrition outcomes.

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