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The Impact of Posyandu Cadre Training on the IYCF-Related Knowledge, Attitudes, and Communication Skills

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Abstract

BACKGROUND: Undernutrition, malnutrition, and stunting all have a detrimental effect on the developing newborn. Nutzritional problems are prevented when the mother and family provide proper nutrition, which involves assistance from the community. Support from the community must be established through the empowerment of posyandu cadres who educate and motivate mothers and families about proper infant and young child feeding (IYCF).

AIM: The study's objective was to assess the impact of complementary feeding training on infant feeding patterns.

METHODS: The study employed an incomparable control group. The sample consists of 50 currently active posyandu cadres (25 persons in the intervention group and 25 persons in the control group). Analysis was performed using the t test, independent t test, Wilcoxon, and Mann–Whitney test.

RESULTS: Significant changes in knowledge, attitudes, and communication abilities were discovered between cadres who received training (intervention group) and those who did not (control group) before to and during the intervention. Cadres who have been taught have a significant impact on baby feeding practices.

CONCLUSION: It was recommended that health cadres be included into health promotion activities, particularly IYCF for women and families.

Introduction

According to the World Health Organization (WHO), pneumonia, diarrhea, measles, and malaria account for 51% of neonatal mortality. Over half of these fatalities are directly attributable to dietary deficiencies [1]. In 2016, the International Food Policy Research Institute (IFPRI) placed Indonesia 108th out of 132 nations in stunting prevalence, making it the second-highest in Southeast Asia after Cambodia [2].

According to the Ministry of Health's Research on Basic Health (Riskesdas), 17.7% of infants under five (toddlers) are malnourished. This statistic covers malnourished toddlers at a rate of 3.9% and undernourished children at 13.8%. Stunting is estimated to affect roughly 30.8% of children under the age of five (those shorter than the average standard for their age) [3]. Indonesia plans to reduce stunting rates by 22% by 2025 [4]. Malnutrition and undernutrition are expected in West Java, occurring at a rate of 13.2% (10.6% malnutrition and 2.6% undernutrition), although stunting occurs at a rate of 31.1% (19.4% short saturation and 11.7% very short) [3]. This demonstrates that a significant nutritional problem exists that must be addressed.

Nutritional problems are associated with health problems; they are also influenced by various other factors that indirectly affect health [5]. Nutritional deficiencies, particularly stunting, can negatively affect their future health and cognitive development. In the near term, nutritional issues during this era might affect brain development and intelligence, impair physical growth, and result in metabolic diseases in the body. Long-term adverse effects include decreased cognitive abilities and learning achievement, reduced immunity, an increased risk of developing diabetes, obesity, heart and blood vessel disease, cancer, stroke, disability in old age, and uncompetitive work quality resulting in low economic productivity [6].

Stunting prevention requires convergent nutrition interventions, including specific and nutritionally sensitive interventions. Specific nutritional interventions are carried out to address direct causal factors, while nutritional interventions are sensitive to indirect cause [7], [8]. Specific nutrition intervention efforts are focused on the first 1,000 days of life, namely, pregnant women, breastfeeding mothers, and children 0−23 months because the most effective stunting control is carried out in 1000 days (golden period or critical period/windows of opportunity) [5]. One of the priority target groups for specific nutrition interventions

in children aged 0−23 months, with priority interventions in the form of promotion and counseling for infant and child feeding (IPM).

Apart from breast milk, complementary foods (MP-ASI) are introduced at 6 months to meet the infant's and young child's nutritional needs. MP-ASI can be supplied in the form of foods purchased locally. The distribution of locally sourced MP-ASI is intended to assist families in developing healthy and balanced MP-ASI for infants and children aged 6−24 months at home and serve as a counseling medium. Each family with infants and children aged 6−24 months should be familiar with IYCF to provide exclusive breastfeeding and develop an appropriate MP-ASI for their household.

Infants' malnutrition is not just a result of food scarcity. Numerous additional reasons contribute to insufficient supplemental feeding and premature weaning. The study's findings indicated that infants and children were malnourished due to ineffective IYCF practices in the home. Mothers' awareness of the benefits and proper feeding practices affects their attitude about breastfeeding [9], [10].

Stunting can occur as a result of insufficient supplementation [11]. Numerous research findings indicate a correlation between the prevalence of stunting and the practices of supplemental foods. A study demonstrated a significant association between the frequency of complementary feeding ($p = 0.047$, 95% CI) and the number of complementary foods given ($p = 0.020$, 95% CI) and the risk of childhood stunting [12]. This is also supported by the results of other studies which conclude that there is a significant association between a history of inappropriate complementary feeding and the incidence of stunting [13].

When supplying complementary foods, the menu must consider micronutrients and macronutrients. Complementary nutrition must be administered in the correct quantity, composition, and time. If not, it may affect malnourished children, resulting in impaired growth and development, such as stunting and malnutrition [14].

Appropriate baby feeding is difficult to perform without the support of another family member. This assistance must be provided by strengthening people who can promote health and urge women and families to feed their newborns, such as posyandu cadres, appropriately. Maintaining close relationships with friends and family, as well as posyandu cadres, is vital.

Posyandu cadres are respected community members. In addition, cadres play a role in disseminating information to the community, especially about IYCF good practices. Cadres can help mothers and caregivers develop appropriate feeding practices. Enhancing the cadres' knowledge and skills can be used to communicate with mothers and caregivers, particularly during posyandu sessions [15]. Training by posyandu cadres is crucial for the practice of supplementary feeding among mothers. Consequently, a cadre training program that aims to improve the skills and motivation of cadres in providing effective IYCF practices is necessary [16].

As a result, posyandu cadres must be trained in exclusive and supplemental nursing, developmental monitoring, and counseling. Professional posyandu cadres are critical to the success of IYCF because they empower moms, strengthen family support, and increase the quality of infant and child meals, all of which contribute to improved nutritional status in toddlers.

The study's objective was to examine the knowledge, attitudes, and communication skills of cadres in the intervention group with the control group following an intervention.

Methods

The study is a quasi-experimental design with an intervention in the form of posyandu cadre training. The effect on increasing knowledge, attitudes, and communication skills of cadres in the intervention group were then compared to the control group who did not receive training. In addition, the cadres educate families with toddlers about proper IYCF practices.

The sample size was determined using an unpaired comparative numerical, analytical technique [17], which resulted in a total sample size of 25 participants for the intervention group and 25 people for the control group, depending on the criteria for posyandu cadres. Criteria for the cadres selected in this study were cadres who were active in posyandu activities, so it was hoped that the knowledge gained from the training could be passed on to other mothers of babies.

Three training sessions have been arranged to educate intervention group participants on data collection and IYCF best practices. The training curriculum emphasizes IYCF, communication skills, and sharing of experience in supplementary food preparation. As a follow-up, each cadre should reach out to one family with infants aged 6−12 months and urge counseling. The cadres will be on hand to provide assistance and demonstrate correct newborn feeding procedures. The family outreach program includes meetings with the mother in the classroom and also home visits for two activities, during which an observation sheet is used to determine whether or not the household provides complementary foods. The control group did not receive information on complimentary foods during the pre-test but after the research concluded.

This study was conducted between June and October of 2020 at Menteng Village for the intervention

group and Loji Village for the control group. The schematic of the flow of research appears like follows:

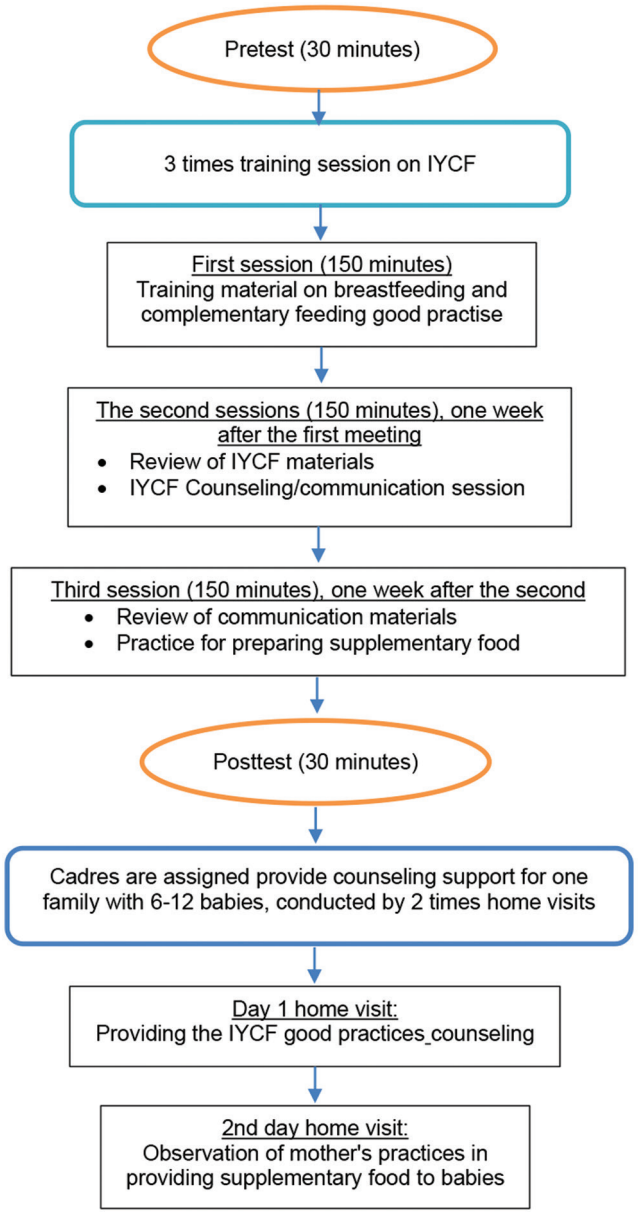

Chart 1. Research Flowchart in the Intervention Group

Knowledge measurement

The results of measuring subjects with high knowledge use values equal to or more than the median and low knowledge with values lower than the median. The knowledge is assessed using an instrument adapted from the Guidelines for implementing Infant and Child Feeding Counseling Training (IPM) [18]. The instrument passed the validity test with a score of 0.383−0.684 and the reliability test with a score of 0.854.

Attitudes measurement

To assess attitudes, a questionnaire was utilized. The researcher developed the instrument for assessing attitudes. Twenty questions on a Likert scale were included, including "strongly agree, agree, hesitate, disagree, and strongly disagree." The results of a survey in which participants' attitudes were quantified using a median value for a positive attitude and a median value for a negative attitude. Between 0.419 and 0.756 were judged to be the instrument's validity range, while 0.711 was established to be the instrument's reliability.

Communication measurement

The instrument for measuring communication skills has been adapted from the IYCF Implementation guide [18]. The results of the measurement of subjects who have communication skills with the value ≥ median and those who are unable with the value <median. Communication was quantified using observation sheets. The ability to explain, actively listen, communicate ideas, use language, and comprehend the interlocutor were all given ratings of 3 (excellent), 2 (sufficient), and 1 correspondingly (poor).

Data analysis

The data analysis was modified in light of the normality test results. According to the Shapiro Wilk normality test, the knowledge and attitude outcomes in the intervention and control groups and the pre- and post-communication outcomes in the control group were generally distributed with p > 0, 05. (with a small sample size of 50) [19]. As a result, the paired t-test is employed. The Wilcoxon test was used since communication data for pre-and post-intervention groups, and dietary data for both intervention and control groups were not normally distributed.

The independent t-test was used to compare post-test knowledge and attitude variables between interventions and controls, whereas the Mann–Whitney test was used to compare communication and eating patterns between interventions and controls [20].

Ethical approval

The Health Research Ethics Commission of the Ministry of Health Bandung's Health Polytechnic has provided ethical approval for this study (No.02/KEPK/EC/SIM/X/2020). Each individual was informed about the study and voluntarily consented.

Results

The following table summarizes knowledge, attitudes, and communication in the intervention and control groups before and following the intervention.

Based on Figure 1, it is evident that the intervention group's median scores for knowledge, attitudes, and communication abilities increased between before and after training. The paired t-test revealed significant differences in knowledge and attitudes before and after training, with p-values of 0.000 for both. According to the Wilcoxon test results; there is a significant difference in communication abilities with a p-value of 0.001.

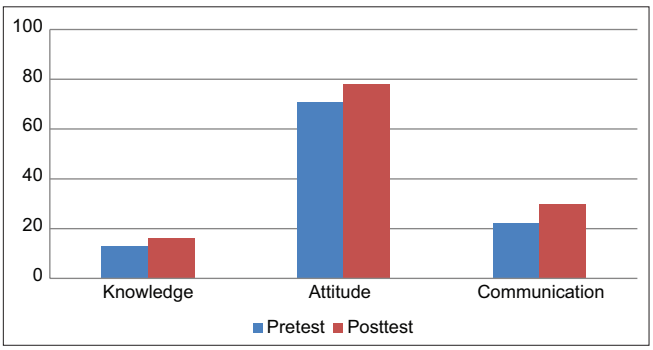

Figure 1: Comparison of the Median Values of Knowledge, Attitudes, and Communication Before and After Training in the Intervention Group

According to Figure 2, there was no significant increase in the control group's median scores for knowledge, attitudes, and communication skills before and after training. With p-values of 0.073 and 0.589, respectively, the paired t-test revealed that there was no significant difference between knowledge and attitudes before and after training. As determined by the Wilcoxon test, there is no significant difference in communication abilities, with a p value of 0.157.

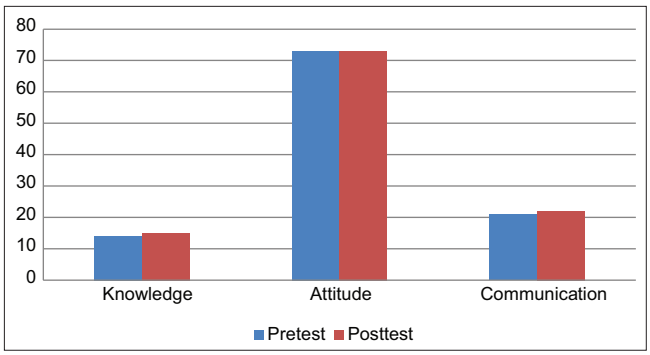

Figure 2: Comparison of the median values of knowledge, attitude, and communication before and after training in the control group

The table demonstrates that, following the intervention (treatment), there is a statistically significant difference in knowledge between the intervention and control groups, with a p-value $p < 0.05$. There was a statistically significant difference in attitude between the intervention and control groups following the intervention (treatment), with a $p < 0.05$. There was a substantial difference in communication between the intervention and control groups following intervention (therapy) ($p < 0.05$).

Discussion

There was a substantial difference in knowledge between the intervention and control groups before and after education, but no difference in knowledge between the intervention and control groups before and after the study. In addition, there was a substantial difference in knowledge between the intervention and control groups after receiving education. Thus, the supply of education has been demonstrated to improve knowledge.

The findings of the study suggested that providing nutrition education increased caregivers' comprehension and usage of supplemental feeding [21]. Stunting reduction is facilitated by increased knowledge and awareness among moms and fathers [22]. Another study discovered that using the extension strategy in conjunction with leaflet media boosted mothers' knowledge and attitudes about child growth and development more than using the extension method alone [23]. Health education benefits posyandu cadres by raising their awareness of pneumonia prevention [24]. In addition, it is consistent with the previous studies indicating a significant difference in awareness regarding supplemental meals before and following instruction [25].

Posyandu cadres are community workers on the front lines. This is because the cadres are indigenous people, which enable the cadres to impart knowledge and skills to the surrounding community. Health cadres or posyandu cadres can act as intermediaries in delivering information to mothers and/or the community [26], particularly on providing MPASI to babies. Thus, posyandu cadres must be trained in the proper administration of Supplementary food. Experienced posyandu cadres are critical to the success of IYCF, since they promote mother empowerment, family support, and the quality of baby and child feeding, hence increasing toddlers' nutritional condition.

In the intervention group, there was a substantial difference in attitudes before and after the intervention, but no difference in opinions before and after the research in the control group. In addition, there was a substantial difference in attitudes following schooling between the intervention and control groups. A person's behavior is determined by their level of education and awareness and a positive attitude. The more information a mother has about additional meals, and the more effective her practice of supplementary feeding will be. A knowledgeable mother's awareness of complimentary meals can aid in the development of positive attitudes toward and practices towards newborn feeding. Attitude refers to a person's mental perspective of events, which results in behavior toward other individuals, ideas, objects, or certain groups. One of the attitudes regarding the practice of complementary

feeding infants is the administration of extra foods based on the infant's age, texture, thickness, and frequency of feeding.

All mothers should be targeted through interventions in child nutrition policy [27]. Failure to provide proper complementary foods to newborns is frequently the consequence of an inappropriate attitude on the part of the mother or babysitter, the baby rejecting an inappropriate food or texture, and others. As a result, many mothers are bored or pushed for time to provide additional nutrients. As a result, family or cadre support is crucial for MPASI provision. Cadres equipped with sufficient information and a receptive attitude toward complementary feeding can pass this on to mothers, assisting them in providing their infants with the correct nutrients.

It is feasible to change cadres' attitudes on baby feeding through capacity building. Nutrition education has a beneficial effect on how people feel about eating. A good attitude toward nutrition increases the likelihood of an individual acting appropriately when meeting nutritional requirements [28]. The cadres' favorable attitudes regarding IYCF will be transmitted to the infant's mother and family, thereby influencing the provision and administration of proper IYCF for infants.

Numerous variables contribute to the development of attitudes toward complimentary meals. Culture affects mothers' attitudes regarding supplemental feeding, resulting in the transmission of poor complementary feeding strategies from generation to generation [29]. As a result, mothers seek assistance and companionship from those who are informed of IYCF. Cadres are the extension of community-based health workers. Cadres can assist and motivate the infant's mother in supplying acceptable complementary foods to the baby. Cadres with a positive attitude may transmit it to the mother of the infant through the supply of complementary foods.

Before and after education, there was a significant change in the communication abilities of the intervention group's research subjects, but no difference in the communication abilities of the control group's research subjects. In addition, there was a significant difference in communication ability between the intervention and control groups following schooling. It is assumed that the communication process will result in a change in the recipient's behavior. Numerous attempts can be done to improve communication skills or abilities, including education and training. Cadres are expected to listen to mothers' complaints about the difficulty of delivering supplemental foods during communication, form conclusions, and aid in resolving these issues. Effective communication is crucial when it comes to developing strong relationships with community members.

According to the study's findings, posyandu cadres are communicators who communicate to motivate people to give knowledge and information sources for the community [30]. Cadres serve a range of tasks in society, including education, mentoring, and community consultation. Cadres facilitate and provide direct assistance to the community by using simple language (local language) and at flexible times. Cadres must be trained, refreshed, and communicate effectively to be more focused and capable of contributing to the community. As a result, the role of cadres is crucial in expanding public knowledge, particularly among mothers of children, particularly on supplementary nutrition in newborns.

The findings indicated that communication methods and cadre services affected illness prevention. In this instance, further work is required to improve communication strategies so that cadres can more easily give information and services [31]. Similarly, as a consequence of this study's findings, cadres with effective communication skills can counsel the mother about the proper IYCF.

Cadre's expertise can improve a person's perception and attitude toward IYCF administration, which can affect the behavior of people who administer IYCF. The study's findings suggested that posyandu cadre training had an effect on mothers' behaviors of supplementary feeding [16]. Nutrition education is crucial for raising awareness about the importance of a balanced diet that includes complementary foods. The knowledge and attitudes of mothers and caregivers of toddlers can impact the supply of extra foods to infants less than 6 months [32]. Understanding how to feed complementary foods to infants can aid in preventing nutritional problems in infants. Reduced child malnutrition by sufficient supplemental feeding is a major global health aim. Complementary dietary education aimed at behavior modification is crucial for reducing child morbidity and mortality [33].

Supplemental feeding begins at the age of six months. Appropriate newborn feeding patterns include age-appropriate feeding, acceptable texture and thickness of food, a range of flavors, a consistent administration schedule, and an adequate number of feedings at each meal. Appropriate feeding can help infants avoid nutritional deficiencies. Stunting may be a result of a dietary deficiency. While complementing meals is important, the menu should consider available micro and macronutrients and the quantity, content, and timing of consumption. Otherwise, it puts malnourished youngsters at risk by impeding their growth and development [14]. According to the study, breastfeeding and supplemental feeding affected infant growth in Lamreung Aceh Besar between the ages of 6 and 24 months. Non-exclusive breastfeeding causes neonates to develop abnormally 21.0 times faster than exclusively breastfed infants, but inadequate supplemental feeding cause's infants to develop abnormally 6.5 times faster [34]. Children become malnourished as a result of inefficient supplemental

feeding strategies. Beginning at the age of six months, complimentary meals, a variety of foods, and an optimal feeding frequency are critical for improving children's nutritional status [35].

Health cadres are respected members of society who significantly impact how people behave, notably mothers' feeding patterns. Thus, cadre participation in educating mothers is crucial for altering mothers' behavior toward more complimentary meals. Posyandu cadres are communicators who communicate with the populace to compel them to offer the community knowledge and information. Cadres serve a range of roles in society, including educator, mentor, and community consultant. Cadres assist and assist the community directly through simple language (local language) and flexible scheduling [30]. Empowering cadres and training them on the early detection and prevention of stunting has a beneficial effect on the cadre's social role [36]. Cadres require training, refreshment, and communication strategies to maintain their focus and ability to contribute more effectively to the community. Thus, cadres are crucial in raising public awareness of supplemental nutrition in children, particularly among mothers of babies.

Conclusion

Prevention of nutritional problems is conducted through proper feeding by mothers and families who cannot be separated from the support of those around them. This support needs to by empowering posyandu cadres who are able to provide health promotion and motivation to mothers and families in properly feeding babies. The results showed that there were significant differences in knowledge, attitudes, and communication of research subjects before and after the intervention to cadres who were given education, there were significant differences in knowledge, attitudes, and communication of cadres who were given education with cadres who were not given education. In this case, health workers in providing education, especially regarding providing complementary feeding to mothers and families, need to involve health cadres.

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