

Nutrition Plate as a Nutritional Media to Increase Knowledge of Balanced Nutrition for Mothers with Toddlers in Muara Gembong

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ABSTRACT

This community empowerment is carried out by the communication science academia from Universitas Bhayangkara Jakarta Raya. This community empowerment is assisted by a food technology lecturer from Universitas Al Azhar Indonesia. This community empowerment seeks to increase the knowledge of mothers with a toddler about balanced food and nutrition. This community empowerment is carried out in the Desa Pantai Bakti, Muara Gembong, one of the districts with the highest level of under-five malnutrition in Indonesia. There are two methods (mix-method approach) this community empowerment use in this activity: focus group discussion and experimental method. These two approaches has an aim to measure intervensi (counseling, pamphlet installation, and nutritional plate medium). This community empowerment uses pre-test and post-test for the same group to measure changes in subject knowledge before and after counseling (intervensi). This community empowerment affects changes in subject knowledge (n=15). The mother's knowledge about balanced nutrition was statistically significantly increased by two-tail $P(T \leq t) 0.002788939$ with $\text{Sig.} \leq \alpha 0,05$.

KEYWORDS Balanced Nutrition; Media; Nutritional Plate

1. INTRODUCTION

For some communities, eating is culture, not nutrition (Reddy & Anitha, 2015). Food needs are based on a complex stimulus involving psychological, social, and educational factors. Culture determines what foods humans will like, humans will domesticate, and humans will avoid. These eating preferences arise because of the learning process since childhood. Thus, human choices about what he needs to eat are not always based on the needs of his body as an organism.

In developing countries, taboos play a role in life decisions, including eating. The taboo comes from the legacy and knowledge of society's magic that is perpetuated. Taboos cause actions that are not based on common sense or anti-science. Thus, people who hold taboos base their various activities on the boundaries of taboos. Unfortunately, this impacts the mother's essential decisions for herself, her toddler, and her fetus (when pregnant).

In Benin, a mother should not consume animal protein because it can cause her child to become too large (Yrence Urielle Amoussou Lokossou, Ayuk Bertrand Tambe, 2021). In the Gambia, pregnant women are prohibited from eating green vegetables, yogurt, cheese, and sugarcane. Meanwhile, in Papua New Guinea, a mother is prohibited from consuming various essential nutrients for fetal development. However, these foods contain vitamins and protein. In many studies, these nutrients play a vital role in the growth of toddlers (Zerfu, Umeta, & Baye, 2016).

Several taboos surround the life of mothers in Indonesia; for example, not allowed to see the lunar eclipse, forbidden to behave rudely, and going out at night. In addition, taboos regarding food also emerged; for example, a mother should not eat high-vitamin fruits such as pineapple and avocado—high animal protein foods such as squid, stingray, shrimp, and eel (Zerfu et al., 2016). In

Majene, mothers with minimal knowledge—besides economic factors—tend to provide food lacking in protein, carbohydrates, and vitamins (Zerfu et al., 2016).

According to Dwivedi and Agrawal, every child born worldwide has the same opportunity to grow up healthy (Dwivendi & Agrawal, 2012). Factors that differentiate toddlers' growth are the economy, lack of access to nutritious food, eating culture, and mother's knowledge (Kumeh et al., 2020). As a result, toddlers with vulnerable family conditions will experience malnutrition.

The Covid-19 pandemic has worsened the economic situation of vulnerable homemakers. The Covid-19 pandemic has had an impact on the allocation of family finances. In low-income families, budgets for additional pandemic needs are increasing. For example, families must meet the needs of online learning, gadgets, internet credit, medical expenses, screening, etc. So—for families with low economic levels—the pandemic creates a double problem. Therefore, a balanced diet and nutrition are not appropriately fulfilled (Lorraine B Robbins, 2022).

Mothers have an essential role in the development of children and their toddler's eating habits (Hasibuan, Batubara, & Suryani, 2019). According to Kadir, in Indonesia, a mother plays a vital role in determining the nutritional status of her child (Kadir, 2019). In Indonesia, a mother's knowledge is proven to assess the perception of her child's nutritional status. The higher the understanding of science, the higher the positive perception of nutrition for children (Neli, Latif, Rompas, Putri, & Firman, 2021).

Muara Gembong District (*Kecamatan*) Bekasi is only 50 km from the center of the Indonesian state government. However, cases of malnutrition in toddlers are still high. According to Unicef, the number of children under five with malnutrition in West Java was high in 2013. Forty-five percent of the population in West Java are children (UNICEF, 2015). Children with malnutrition reached 15.1 percent, with the prevalence of malnutrition close to the national average, which is 30.8 percent in West Java (Popmama.com, n.d.). According to the Bekasi District Health Office, Sukadami, South Cikarang District, is the area with the highest malnutrition and stunting rates, followed by Pantai Bakti, Muara Gembong District, in Bekasi Regency (Radarbekasi.id, 2020).

Health communication is essential. Health communication is any action for empowering behavior. Empowerment behavior can be positive if everyone who gets verbal and non-verbal messages can change their health behavior to make choices that lead to better health. For example, health communication can take the form of counseling, leaflets, pamphlets, videos, television broadcasts, radio broadcasts, and so on (ruralhealthinfo.org, 2019).

Prevention of the transmission of the Covid-19 pandemic is an example of success story regarding health communication. Through media channels, people form knowledge about the transmission of Covid-19. The media is a medium that provides an abstract picture of the shape of the virus and the way it infects humans. Thus, humanity can form a habit of preventing and overcoming crises during the Covid-19 pandemic.

This community empowerment is in Pantai Bakti, Muara Gembong District. This community empowerment uses the counseling (*penyuluhan*) rules through health communication to change the mother's knowledge and dietary behavior in a positive direction. By using the transfer of knowledge and technology, this counseling believes that the mother's behavior will positively affect her and her children's health. This community empowerment is counseling to increase mothers' and children's knowledge of a balanced diet. This counseling uses pre-test and post-test to measure the increase in the mother's knowledge of nutrition before and after counseling.

2. METHOD

This community empowerment examines the mother's knowledge using a mixed methodology: quantitative and qualitative. Meanwhile, the data collection techniques used by this community empowerment were FGDs and questionnaires. This extension will measure mothers' knowledge using a quantitative approach to measure knowledge before (pre-test) and knowledge after (post-test). A pre-test of the mother's knowledge will be carried out before the intervention (counseling). Meanwhile, the post-test of mother's knowledge will be carried out after the

intervention. This community empowerment describes report the results of the focus group discussions with descriptive (qualitative) data. This community empowerment hopes become an arena for knowledge that is widely spread among mothers vulnerable to malnutrition in *Desa Pantai Bakti*, Muara Gembong. This community empowerment hopes that this counseling community empowerment can improve the attitudes and knowledge of mothers regarding the importance of nutritional knowledge and its application to their fetuses, infants, and toddlers later.

Table 1. Description of Data Collection Method

Data Collection Method	Description
1. Focus Group Discussion	<ul style="list-style-type: none"> - This community empowerment use the FGD method to obtain qualitative data (n=6) - Aimed to evaluate the intervension (counselling) - Aimed to explore how mother's understanding of diet - To understand the experience of mothers giving food to children
2. Questionnaire	<ul style="list-style-type: none"> - To understand mother's knowledge about diet before and after the intervention (n=15) - To measure mother's knowledge about essential nutrition - To measure mother's knowledge about balanced diet - Aimed to evaluate intervention process - Aimed to measure the mother's knowledge before and after intervension by conducting pre and pos-test
3. Counseling	<ul style="list-style-type: none"> - Aimed to increase mother's knowledge about essential nutrition - Aimed to increase mother's knowledge about balanced diet

This community empowerment has a flow. This community empowerment selects urgent cases by making limitations on the subject. The focus of this community empowerment is to improve the knowledge of mothers with toddlers in Pantai Bakti who are proven to have high cases of malnutrition. This community empowerment uses two approaches: quantitative and qualitative. In the early stages of data collection, the community empowerment used a pre-test questionnaire to measure the mother's knowledge before the intervention. At the same time, this community empowerment conducted FGDs to explore the motives descriptively for understanding malnutrition. After that, this community empowerment used three types of interventions: counseling, distribution of nutrition plates, and posting pamphlets in various corners of the Pantai Bakti. After the intervention was completed, the community empowerment used a post-test questionnaire to measure the mother's knowledge about a balanced diet for herself and her toddler.

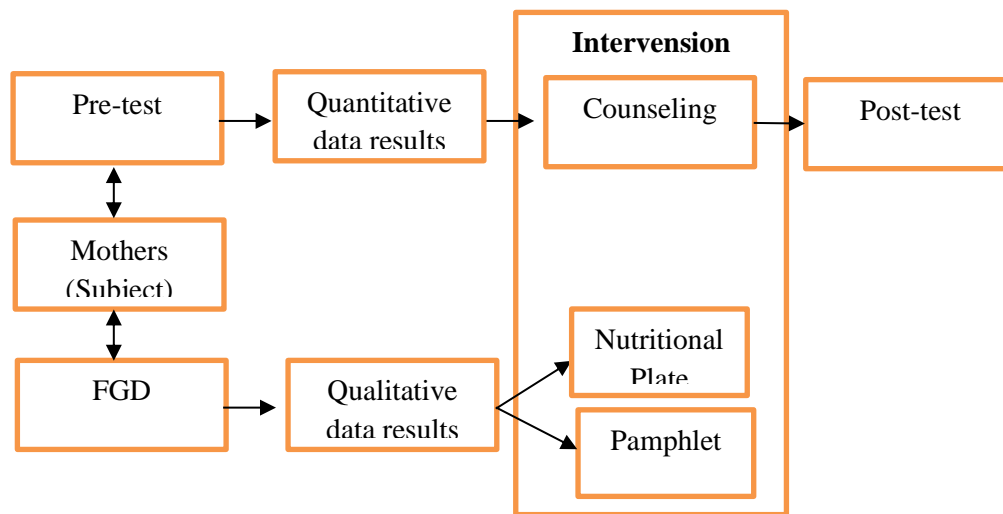


Figure 1. Data collection flow in the program of Nutritional Media to Increase Knowledge of Balanced Diet for Mothers with Toddlers in Muara Gembong

3. RESULT

3.1 FGD’s Method Result

Several problems arise from the results of the FGD with the subject. Mothers with toddlers have basic knowledge about adequate nutrition. However, the mother's knowledge about the variety of foods for certain nutrition types is minimal. In addition, the mother's knowledge about the dose and composition of the meal is minimal. The mother measures the child's food intake approx. Health facilities (Puskesmas) have conducted limited socialization for mothers.

3.2 Experimental Method Result

This community empowerment uses (one of them) quantitative approaches to measure the increase in subject knowledge. This community empowerment used the experimental method to conduct a pretest, intervention (counseling and installation of pamphlets), and posttest. This community empowerment tested the same group before and after the intervention (t-Test: Paired Two Sample for Means). The hypothesis and the criteria for the quantitative data are

3.4.1 Hypothesis

Ho: there is no difference in the value before and after the intervention

Ha: there is a difference in the value before and after the lesson

3.4.2 Criteria

Ho is rejected if t (count) is outside t (table)

Ho is rejected if the value of Sig. $\leq \alpha$ 0,05

Table 2. Data Analysis

	<i>Pretest</i>	<i>Posttest</i>
Mean	53,9333333	56,8
Variance	9,06666667	16,7428571
Observations	15	15
Pearson Correlation	0,66554165	
Hypothesized Mean Difference	0	
df	14	
t Stat	-3,6194202	
P(T<=t) one-tail	0,00139447	
t Critical one-tail	1,76131014	

P(T<=t) two-tail	0,00278894
t Critical two-tail	2,14478669

4. DISCUSSION

4.1 Mother's knowledge about food nutrition

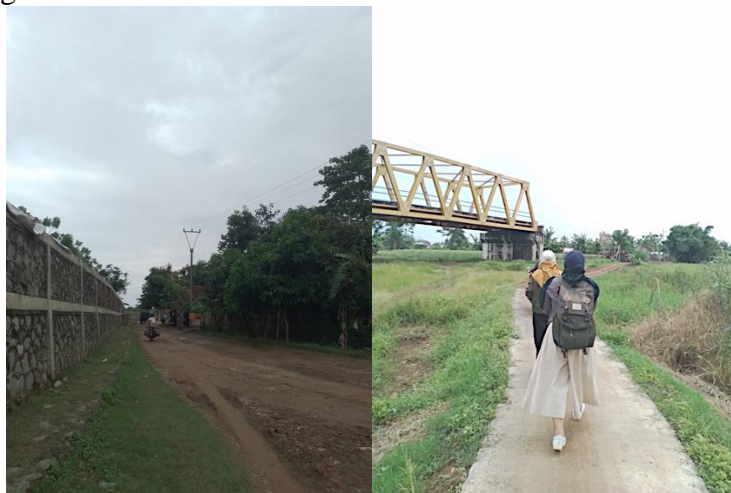


Figure 2. Desa Pantai Bakti, Kecamatan Muara Gembong, Kabupaten Bekasi, Jawa Barat

Mother is the person who plays the most role in providing children knowledge, including nutrition knowledge. The division of labor in rural areas such as Pantai Bakti is usually divided into two: father work (in the formal and informal sectors). Meanwhile, mothers work in the domestic sector, including caring for children. Mother relatively understands the nutritional content in food, but lacks knowledge of the amount and composition of balanced diet.

Mothers in Pantai Bakti get knowledge about nutrition from the Television and *Puskesmas*. They know the sources of essential nutrients such as carbohydrates in rice, corn, and cassava. Protein is in eggs, fish, and beans (soy). Vitamins are found in all kinds of vegetables and fruits. Nevertheless, they cannot explain how much and the composition of the food that should be eaten. Ibu Yati said that the ideal amount of food is when the child is complete. “*Kalau sudah disendokin, disuapin. Kalau kurang nambah. Kalau udah kenyang berhenti.*” If it is not enough, add it. If it is enough, then stop eating.

4.2 Access to food

Access to food is not difficult in Pantai Bakti. Pantai Bakti is an estuary area where access to protein such as freshwater and marine fish is relatively sufficient and inexpensive. In addition, some households raise ducks, chickens, and goats. Kale and long beans are also sources of fiber and vitamins that people usually grow. Apart from that, access to buying food is not difficult. One factor hindering housewives from buying food is the economic factor and the impact of economic uncertainty due to the Covid-19 pandemic.

4.3 Health Center's (*Puskesmas*) and Local Stakeholders Role

Puskesmas and local stakeholders play a role in communicating balanced nutrition for the people of Pantai Bakti. Local stakeholder leaders (*Lurah, Babinsa, and Bhabinkamtibmas*) assist the process. The *Puskesmas* has a routine schedule of health screenings for Pantai Bakti residents. Apart from television, the *Puskesmas* has provided counseling on nutrition for mothers several times to prevent stunting. However, the *Puskesmas* never explained the amount, dosage, and composition of the meal. As a result, the community empowerment sees that the processes that local stakeholders have undertaken previously are incomplete.

4.4 Mother's knowledge increases after intervention



Figure 3. The Counseling



Figure 4. The Pamphlet and Nutritional Plate Intervention

Two types of interventions this community empowerment uses affect increasing mother knowledge about nutrition. The two types of intervention are counseling and pamphlet installation. This community empowerment conducts testing on the same group but at different times. The two time periods are before the intervention and after the intervention. The result is that the two-tail $P(T \leq t)$ value is 0,00278894. Where the number is smaller than $\text{Sig.} \leq \alpha 0,05$, which indicates a difference in knowledge before and after the intervention.

5. CONCLUSION

This community empowerment has met the target of increasing some of the mothers' knowledge in Pantai Bakti Village, Muara Gembong. The two methodologies that community empowerment uses are FGD and experimental, trying to holistically capture the problem of mothers' knowledge about balanced nutrition. However, academics must continue similar community empowerment with a broader target population. Moreover, the following community empowerment can expand collaboration between academic colleagues from a more varied cross-disciplinary field.

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CONFLICT OF INTERESTS

We declare there is no conflict of interest in this manuscript entitle “Nutrition Plate as a Nutritional Media to Increase Knowledge of Balanced Diet for Mothers with Toddlers in Muara Gembong.” All authors have agreed to his involvement in this writing and the author's order in publication.

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