

THE EFFECT OF COUNSELING ON THE MANAGEMENT OF FOOD INGREDIENTS (MORINGA LEAVES) OF COMPLEMENTARY FOOD ON THE BEHAVIOR OF MOTHERS WHO HAVE BABIES AGED 7-12 MONTHS IN TEGAL SARI VILLAGE IN 2022

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ABSTRACT

Mother's behavior in providing complementary foods greatly affects the nutritional status of toddlers. One way to improve the behavior of mothers in providing complementary foods to breast milk is to provide health education. This study aims to determine the effect of counseling on the management of food ingredients (moringa leaves) MPASI on the behavior of mothers who have babies aged 7-12 months in Tegal Sari Village in 2022. The method used pre-experimental design with pre-test and post-test group design. The sample with total sampling technique was 32 respondents. Data collection was carried out using a questionnaire. Data analysis using Wilcoxon test because the data were not normally distributed. The results showed that the behavior of mothers in providing complementary feeding to infants aged 6-12 months after receiving counseling on the management of food ingredients (moringa leaves) was mostly good, as many as 19 people (59.4%). The results of statistical test analysis showed that there was a significant difference with the value of $z = -5.109$ ($p < 0.05$). This shows that there is a significant influence on the behavior of mothers in providing complementary foods to breast milk before and after health education is carried out on the management of food ingredients (moringa leaves).

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1. Introduction

Nutritional problems of children under five and health of mothers still require more serious attention. This can be seen from the high incidence of malnutrition and malnutrition in children under five, which is 17.7%. Toddlers are very short and short (Stunting) by 30.8%. have not reached the target (28%). Very thin and thin by 10.2%. The incidence of Chronic Energy Deficiency (KEK) in pregnant women is 17.3% while pregnant women with anemia are 48.9%. The infant mortality rate (IMR) reaches 24/100,000 population, the Maternal Mortality Rate (AKI) currently reaches 346/100,000 population, while the 2019 target is 306/100,000 population (Ministry of Health, 2018)

Insufficient nutritional intake, infections, and poor parenting are direct causes of malnutrition in infants and children (BAPPENAS, 2011). This has an impact not only on macronutrient deficiencies but also micronutrients which are very necessary for the growth and development of early childhood. Efforts to improve infant nutrition are based on the fact that malnutrition at the age of < 2 years will have an impact on decreased physical growth, brain development, intelligence, and productivity, most of these impacts are irreversible (Zakaria, Hadju, As'ad, & Bahar, 2015).

Understanding and implementing good and proper eating habits from parents is very important to support the adequate nutritional intake of the child during this period. Nutritional fulfillment can also be supported by the correct way of feeding. Pediatrician Consultant Gastrohepatology from Awal Bros Evasari Hospital, Frieda Handayani revealed that the application of good eating habits during the introduction of solid food gradually can be started by introducing textures to food portions

gradually, according to the needs at each stage of child development. Children who are old enough, physically and mentally ready, can begin to be introduced to complementary foods whose nutrition, frequency, texture, and portion must be adjusted to the child's needs. These criteria are also set out in the MPASI guidelines by WHO,

Moringa is known worldwide as a nutritious plant and the World Health Organization (WHO) has introduced Moringa as an alternative food to overcome nutritional problems (malnutrition)⁷. African and Asian Moringa leaves are recommended as a supplement that is rich in nutrients for mothers and children in their infancy. All parts of the Moringa plant have nutritional value, are efficacious for health and industrial benefits. The use of Moringa plants in Indonesia is currently still limited. Along with the development of information, there are also developments and changes in people's lifestyles, including lifestyles in choosing daily food menus. The large variety of food choices, making Moringa leaves a legacy food is sometimes abandoned. Given the very diverse functions and benefits of Moringa plants, both for food, medicine, as well as the environment, information related to the benefits of Moringa plants needs to be widely disseminated to the public so that it can be widely cultivated and utilized optimally⁸. According to research conducted by Sugianto (2016) showed that the leaves with the best content were Moringa leaves in the young leaf layer with the results of proximate analysis of water content 13.19%, ash content 16.77%, fat content 8.42%, protein content 39, 00%, and carbohydrates 35.88%. Moringa leaves can be beneficial for people who do not get protein from meat, even Moringa leaves contain arginine and histidine which are important especially in infants who are not able to make enough protein for their growth. A comparative study of fresh Moringa leaves when compared with other foods contains 7 times the vitamin C of oranges, 4 times the vitamin A of carrots, 4 times the calcium of milk, 3 times the potassium of bananas and 2 times the protein of yogurt. Consumption of Moringa leaves is an alternative to overcome cases of malnutrition in Indonesia. The vitamin A contained in Moringa leaf powder is equivalent to 10 (ten) times the vitamin A found in carrots, equivalent to 17 (seventeen) times the calcium found in milk, equivalent to 15 (fifteen) times the potassium found in bananas, equivalent to 9 (nine) times the protein found in yogurt and equivalent to 25 (twenty five) times the iron found in spinach.

2. Method

1) Research design

The method used is pre-experimental design with pre-test and post-test group design. The sample with total sampling technique was 32 respondents. Data collection was carried out using a questionnaire. Data analysis used the Wilcoxon test because the data were not normally distributed.

2) Population and sample

Population is a group of subjects who become the object or target of research. The population in this study were all mothers who had babies aged 6 -12 months in the working area of Tegal Sari village in 2022 as many as 32 people. The sample in this study used a total sampling technique of 32 people.

3) Data collection

The type of data collected is primary data in the form of the identity of the respondent, along with the variables studied through a questionnaire. The primary data in this study was a questionnaire filled out by mothers who had babies aged 6-12 months who were respondents in the study. Secondary Data is data obtained from the working area of Tegal Sari village in 2022

3. Results and Discussion

3.2 Univariate Analysis

Characteristics of Respondents

Characteristics of respondents in Tegal Sari Village The year 2022 in this study is grouped by age, education, occupation and parity. Characteristics of respondents are described in table 1. as follows:

Table 1.
CHARACTERISTICS OF RESPONDENTS IN TEGAL SARI VILLAGE IN 2022

No	Demographic Data	Frequency	Percentage (%)
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1	Age		
	<25 years old	12	37.5
	26-35 years old	17	53.1
	>35 years old	3	9.4
	Amount	32	100
2	Education		
	Elementary/Junior High (Low)	11	34.4
	High School (Intermediate)	19	59.4
	D-III/ S-1 (High)	2	6.3
	Amount	32	100
3	Work		
	Working	11	34.4
	Doesn't work	21	65.6
	Amount	32	100
4	parity		
	Primipara	17	53.1
	Multipara	15	46.9
	Amount	32	100

Based on table 1. above, it is known that the characteristics of the respondents based on the age of the majority of respondents aged between 25-35 years were 17 respondents (53.1%), with the education level of the majority of respondents graduating from high school (SMA) as many as 19 respondents (59.4 %), and seen the occupation of the majority of respondents Housewives (not working) as many as 21 respondents (65.6%). Judging from parity, most of them were primiparous mothers, namely 17 respondents (53.1%).

Mother's Behavior in Giving Complementary Foods to Breastfeeding Infants Age 6-12 Months Before Getting Counseling About Moringa Leaf Food Ingredients (MPASI)

Table 2.

MOTHER'S BEHAVIOR IN PROVIDING COMPLEMENTARY FOODS TO BREASTFEEDING INFANTS AGE 6-12 MONTHS BEFORE GETTING COUNSELING ABOUT PROCESSING MORINGA LEAF FOOD INGREDIENTS (MPASI) IN TEGAL SARI VILLAGE IN 2022

Mother's Behavior Before Counseling	Frequency	Percentage (%)
Well	3	9.4
Enough	12	37.5
Not enough	17	53.1
Amount	32	100

Based on the table2 above, it can be seen that the behavior of respondents in providing complementary foods to breast milk for infants aged 6-12 months before receiving counseling on the management of Moringa Leaf Foodstuffs (MPASI) mostly had poor behavior, namely as many as 17 people (53.1%), and some small good behavior as many as 3 people (9.4%).

Mother's Behavior in Providing Complementary Foods to Breastfeeding Infants Age 6-12 Months After Received Counseling on the Management of Moringa Leaf Food Ingredients (MPASI)

Table 3.

MOTHER'S BEHAVIOR IN GIVING COMPLEMENTARY FOODS TO BREASTFEEDING INFANTS AGE 6-12 MONTHS AFTER RECEIVED COUNSELING ON THE MANAGEMENT OF MORINGA LEAF FOOD INGREDIENTS (MPASI) IN TEGAL SARI VILLAGE IN 2022

Mother's Behavior Before Counseling	Frequency	Percentage (%)
Well	19	59.4
Enough	13	40.6

Not enough	0	0.0
Amount	32	100

Based on the table3 above, it can be seen that the behavior of respondents in providing complementary feeding to infants aged 6-12 months after receiving counseling on complementary feeding was mostly good, as many as 19 people (59.4%), and there were no respondents whose behavior was not good.

Mother's Behavior in Giving Complementary Foods to Breastfeeding Infants Age 6-12 Months Before and After Counseling

TABLE 4.
MOTHER'S BEHAVIOR IN PROVIDING COMPLEMENTARY FOODS TO BREASTFEEDING INFANTS AGE 6-12 MONTHS BEFORE AND AFTER COUNSELING ON PROCESSING MORINGA LEAF FOOD INGREDIENTS (MPASI) IN TEGAL SARI VILLAGE IN 2022

No	Mother's Behavior Before Counseling	Mother's Behavior After Counseling				Total	
		Well		Enough		f	%
		f	%	f	%	f	%
1	Well	3	9.4	0	0.0	3	9.4
2	Enough	12	37.5	0	0.0	12	37.5
3	Not enough	4	12.5	13	40.6	17	53.1
	Total	19	56.4	13	40.6	32	100.0

Based on the table4 concerning cross tabulation between mother's behavior in providing complementary feeding to infants aged 6-12 months before and after counseling on complementary feeding in Tegal Sari Village in 2022, it is known that most of the respondents who had good behavior before counseling also passed well after counseling reached 19 people (56.4%). And there were no respondents who before the counseling had good behavior then changed to less after the counseling.

4.3 Bivariate Analysis

The Effect of Counseling on the Management of Moringa Leaf Food Ingredients (MPASI) on Mother's Behavior in Providing Complementary Foods to Breastfeeding Infants Age 6-12 Months in Tegal Sari Village in 2022

TABLE 5.
THE EFFECT OF COUNSELING ON THE MANAGEMENT OF MORINGA LEAF FOOD INGREDIENTS (MPASI) ON MOTHER'S BEHAVIOR IN PROVIDING COMPLEMENTARY FOODS TO BREASTFEEDING INFANTS AGE 6-12 MONTHS IN TEGAL SARI VILLAGE IN 2022

Variable	Wilcoxon coefficient (Z-count)	N	Sig.
After Counseling-Before Counseling	-5,109	32	0.000*

Based on table 4.5 above, it can be seen that the Wilcoxon coefficient (Z) is -5.109 and the significance value is 0.000. Based on the significance value test, the sig value is known. < 0.05 ($0.000 < 0.005$) means that the Wilcoxon correlation coefficient (Z) is significant at a significant level of 5%, then this means H_0 is rejected and H_a is accepted, meaning that there is a significant effect of counseling on the management of Moringa leaf food ingredients (MPASI) on behavior mothers in providing complementary feeding for infants aged 6-12 months in Tegal Sari Village in 2022.

4.2 Discussion

Mother's Behavior in Providing Complementary Foods to Breastfeeding Infants Age 6-12 Months Before Getting Counseling About Processing Moringa Leaf Food Ingredients (MPASI) in Tegal Sari Village in 2022

The results of this study indicate that the behavior of respondents before counseling about

complementary feeding on breast milk in 17 people (53.1%) was not good, 12 people (37.5%) was quite good, and 3 people (9.4%) was good. This shows that most of the respondents have bad behavior regarding complementary feeding. The behavior of mothers in providing complementary feeding to infants aged 6-12 months both physically and psychologically will help parents to implement appropriate feeding behavior for infants aged 6-12 months. Improper feeding can cause children to suffer from digestive diseases or even malnutrition which causes failure to thrive. Malnutrition contributes to two-thirds of under-five deaths. Two-thirds of these deaths are related to inappropriate feeding practices at an early age (Agustina and Listiowati, 2012).

The problem of malnutrition in children is directly and indirectly caused by ignorance about how to feed infants and children and the existence of habits that are detrimental to health. As a baby's age increases, his nutritional needs also increase, therefore, in providing complementary feeding so that the baby's needs or baby's health are met, it is necessary to pay attention to the timeliness of giving, portion, type, selection of food ingredients, method of manufacture and method of administration. In this case, mothers who have babies play an important role in preventing inappropriate complementary feeding. In addition, health workers need to promote health education for mothers so that complementary foods for breastfeeding can be given appropriately (Agustina and Listiowati, 2012).

Mother's Behavior in Giving Complementary Foods to Breastfeeding Infants Age 6-12 Months After Received Counseling on the Management of Moringa Leaf Food Ingredients (MPASI) in Tegal Sari Village in 2022

Based on research results *post testit* is known that the behavior of respondents in providing complementary feeding to infants aged 6-12 months after receiving counseling on the processing of Moringa Leaf Food Ingredients (MPASI) was mostly good, as many as 19 people (59.4%), and there were no respondents whose behavior was not good. Good knowledge of MP-ASI will influence or change the practice of giving good MP-ASI, and vice versa if lack of knowledge will affect the practice of giving MP-ASI which is also lacking (Yulianti J, 2010). By providing counseling about MP-ASI greatly affects the behavior of mothers who have babies aged 6-12 months in giving MP-ASI, and the choice of food is influenced by the mother's level of knowledge. Ignorance can lead to errors in food selection and processing, even though food ingredients are available (Prastomo, 2016)

Providing information through counseling requires creativity from the extension worker himself so that the message to be conveyed can be received by the recipient of the message. So that an extension officer should have good quality knowledge and communication skills. This is in line with the opinion of Ramadhani (2011), which states that counseling can be interpreted as a reciprocal relationship between two individuals, where one person (i.e. the extension worker) tries to help the other (i.e. the client) to achieve an understanding of himself in relation to his/her relationship with others. problems they will face in the future.

Motivating mothers with counseling is one of the efforts of health workers so that the material presented will be achieved. Health education is an educational approach that produces individual/community behaviors that are needed to improve/maintain good nutrition (Prastomo, 2016). Individual behavior or practice is an action or real action, the measurement can be direct or indirect. Directly by observing the activities carried out by respondents

The method used is usually about the practice of giving MP-ASI lectures, demonstrations, discussions, questions and answers, and seminars. The method used in counseling about the practice of giving MP-ASI is a participatory method, it is an educational approach that changes one's knowledge and behavior, by inviting respondents to play an active role by practicing giving MP-ASI directly. Practicing is inviting respondents to come forward directly to practice giving MP-ASI and giving menus and ways to make or cook MP-ASI.

The Effect of Counseling on the Management of Moringa Leaf Food Ingredients (MPASI) on Mother's Behavior in Providing Complementary Foods to Breastfeeding Infants Age 6-12 Months in Tegal Sari Village in 2022

The results of the *posttest* analysis of the behavior of mothers in providing complementary feeding to infants aged 6-12 months in 32 respondents with the Wilcoxon test showed a value of $z = -5.109$ with a significance value of 0.000 which indicated that there was a significant effect between counseling on the management of Moringa leaf food ingredients (MPASI). on the behavior of mothers in providing complementary feeding to infants aged 6-12 months in Tegal Sari Village in 2022. The

counseling provided was able to provide knowledge to respondents so that they could improve behavior in providing complementary feeding.

Counseling on complementary feeding is considered to provide additional knowledge to respondents so that respondents know more about giving complementary foods to breast milk for their babies. As evidence, this study tested the results of questionnaire responses distributed before counseling on complementary foods and 7 days after counseling on complementary foods. This is in line with Notoatmodjo (2012) which states that the existence of health education for everyone, including community members, families, can help improve abilities and skills in maintaining their own health.

In this study, the researchers provided counseling using the lecture method using presentation slides and media in the form of leaflets containing about ways of giving complementary feeding to infants aged 6-12 months. Leaflets are packaged in such a way using language that is easily understood by respondents and accompanied by pictures so that the material is more attractive to respondents. This is in line with what was expressed by Mahfoedz and Suryani (2018) that the delivery of material that is not boring, the method used is easy to understand and is understood by the target is a factor that affects the success of counseling.

Health education is one of the competencies required of nursing personnel, because it is one of the roles that must be carried out in every provision of nursing care wherever they work. Thus a nurse must be able to carry out her role in providing health counseling to individuals, families, communities and special groups, whether it is in hospitals, clinics, health centers, maternity homes, at home or in the community in changing their behavior towards healthy behavior (Humairah, 2015).

The results of the calculation show that there is a significant change in the respondents after being given counseling on the management of Moringa leaf food ingredients as complementary foods for breast milk. The results of the cross tabulation show that there are 17 respondents who were previously in the category of poor behavior, so there are no respondents who have poor behavior. The number of respondents who behaved fairly previously amounted to 12 people, increased to 13 people after counseling about complementary feeding. Meanwhile, respondents who had good behavior previously only amounted to 3 people, increasing to 19 people after being given counseling about complementary feeding. This shows that counseling about complementary feeding has an impact on behavioral changes in respondents.

Based on the respondent's data there are 20 (62.5%) mothers who are more than 25 years old, it is assumed that the age of the mother who is relatively mature has quite a lot of experience in providing complementary feeding for her baby. These results are the same as the results of research from Lola (2012) which states that there is a relationship between knowledge, attitudes and actions of mothers in giving complementary foods to breast milk with the nutritional status of toddlers aged 7-12 months.

There are 21 mothers (65.6%) who work as housewives, in this study the number of housewives is the highest, it is assumed that being a housewife has more time to take care of their children, it means that mothers have more time to prepare the best food for their children compared to working mothers. These results are the same as the results of research by Kristianto and Sulistyarini (2013) which states that the mother's job is one of the factors that influence mothers in providing complementary feeding for infants aged 6-36 months. The results of this study indicate that the highest number of education categories are those with high school education, as many as 19 mothers (59.4%), where the respondent's knowledge of breastfeeding complementary feeding is closely related to their educational status, education is the beginning of understanding something, including regarding the provision of complementary feeding, the length of education plays an important role in obtaining information and understanding, mothers with relatively high education have a mature mindset. These results are the same as the results of Kardiani's research (2012) which states that mothers with high school education or more have good knowledge about complementary feeding.

With the results of this study it can be concluded that the counseling on complementary feeding carried out has met its target, as stated by Notoatmodjo (2003), where counseling and guidance are part of health education, namely efforts to help individuals, groups / communities in improving their ability or behavior to achieve optimal health. In this case, the mother's behavior in providing complementary feeding has increased in a better direction.

4. Conclusions

The conclusion of this study is that the behavior of respondents in providing complementary foods to breast milk for infants aged 6-12 months before receiving counseling on the management of Moringa Leaf Foodstuffs (MPASI) mostly behaved less by 53.1%. The behavior of respondents in providing complementary feeding to infants aged 6-12 months after receiving counseling on the management of Moringa Leaf Foodstuffs (MPASI) mostly behaved well by 59.4%. There is a significant effect of counseling on the management of Moringa leaf food ingredients (MPASI) on the behavior of mothers in providing complementary feeding to infants aged 6-12 months in Tegal Sari Village in 2022, with p value = 0.000 ($p < 0.05$).

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Reference

- Iskandar. 2017. Pengaruh Pemberian Makanan Tambahan Modifikasi Terhadap Status Gizi Balita. Aceh Besar.
- Ghina Amalia, dkk.. 2018., Biskuit Ekstrak Daun Kelor (*Moringa oleifera* L) Dengan Variasi Jumlah Tepung Pisang dan Tepung Terigu. Bogor.
- Wahyudi Isnand dan Nurhaedah M. 2017. Ragam Manfaat Tanaman Kelor (*Moringa oleifera* lamk.) Bagi Masyarakat. Makassar.
- Kementerian Desa, Pembangunan Daerah Tertinggal dan Transmigrasi. 2017. Buku Saku Desa dalam Penanganan Stunting. Jakarta.
- Menteri Kesehatan RI. 2018. Mewujudkan Indonesia Sehat melalui Percepatan Penurunan Stunting. Menteri Kesehatan, Nila F Moeloek bersama Gubernur Jawa Timur Khofifah Indar Parawansa dalam acara Rapat Koordinasi Program Prioritas Bidang Kesehatan Provinsi Jawa Timur, di Hotel Bumi Jumat, 12 April 2022 18:31 [Surabaya.tribunnews.com/fatimatuz zahro](http://Surabaya.tribunnews.com/fatimatuz%20zahro)
- Aminah, S., Ramadhan, T. dan Yanis, M. 2015. Kandungan Nutrisi dan Sifat Fungsional Tanaman Kelor (*Moringa oleifera*). Buletin Pertanian Perkotaan 5(2):35-42
- Hartoyo, A. 2003. Teh dan Khasiatnya Bagi Kesehatan. Yogyakarta. Kanisiuns.44
- Madukwe, E. U., Ezeugwu, J. O. dan Eme, P. E. 2013. Nutriion Composition and Sensory Evaluation of Dry Moringa oleifera Aqueous Extract. International Journal of Basic & Applied Sciences 13(3):100-102
- Rahmat, H. 2009. Identifikasi Senyawa Flavonoid Pada Sayuran Indigenous Jawa Barat. Institut Pertanian Bogor. <http://repository.ipb.ac.id/handle/123456789/11374>
- Rahmawati, N. D. 2015. Aktivitas Antioksidan dan Total Fenol Teh Herbal Daun Pacar Air (*Impatiens balsamina*) dengan Variasi Lama Fermentasi dan Metode Pengeringan. [Artikel Publikasi]. Surakarta : Fakultas Keguruan