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EMPOWERING MOTHER OF TODDLER TO OVERCOME STUNTING IN AN INTEGRATIVE WAY IN DAIRI COUNTY

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ABSTRACT:
Stunting is one of the targets *Sustainable Development Goals* (SDGs) which are included in the 2nd sustainable development goal, namely eliminating hunger and all forms of malnutrition by 2030 and achieving food security. The target set is to reduce the number *stunting* up to 14% in 2024. *Stunting* caused by multi-dimensional factors and not only caused by PEM factors experienced by pregnant women or poor nutrition experienced by children under five. There is still a lack of household/family access to nutritious food, lack of access to clean water and sanitation. The aim of this research in the second year is to overcome the problem of stunting by empowering interventions for mothers of toddlers to improve water quality, knowledge and attitudes about PHBS and nutritional intake as well as the correct way of processing MPASI, so that they are able to provide food that meets the nutritional needs of toddlers *stunting* by using local local food. In this research, data analysis was carried out using the dependent t statistical test. The results of the interventions carried out provide an illustration of improving water quality, increasing mothers knowledge and attitudes about PHBS and balanced nutrition for toddlers, even joint cooking activities also improve mothers skills to be able to prepare nutritious, cheap and delicious food.

Keywords: Empowerment, Mothers of Toddlers, Stunting, Integrative

INTRODUCTION

Stunting is one of the targets*Sustainable Development Goals (SDGs)* which is included in the second sustainable development goal, namely eliminating hunger and all forms of malnutrition by 2030 and achieving food security. Condition *stunting* describes the

nutritional quality of the past due to deficiencies in nutritional intake needed during the linear growth period, especially such as protein, zinc and calcium. Apart from that, it is also caused by environmental factors, one of which is poor sanitation, which causes diseases related to digestion, causing the process of absorption of nutrients, especially micronutrients, to be inadequate (Unicef, 2018).

Clean water and sanitation are essential factors in preventing stunting. The relationship between consumption of dirty water and stunting lies in the large number of microorganisms (such as pathogens and E-Coli bacteria in dirty water which, if consumed, can disrupt systems in the human body (Agustina, 2006). Some of the diseases that lurk in dirty water are diarrhea and worms. Children Those who have difficulty getting access to clean water can experience diarrhea repeatedly. In fact, during diarrhea, there is a lot of fluid and micronutrients (important nutrients) that are wasted from the child's body. Zinc is one of them. When the body is deficient in Zinc, the function of the intestines is disrupted during diarrhea. cannot be regenerated again, zinc deficiency in childhood can cause*stunting*.

The results of the first year's research in Dairi Regency identified the causal factors*stunting* isdue to poor sanitation where clean water contains E-Coli (43%), the highest is found in the villages of Sumbul, Tanjung Beringin and Batang Beruh and Silalahi; poor clean and healthy living behavior as much as 67.4%; Apart from that, it is also due to the lack of nutritional intake in toddlers including protein (46.5%), calcium (95.3%) and zinc (59.3%).

Efforts to overcome stunting must be carried out in accordance with the factors that cause this situation, namely based on the results of problem mapping. Water control can be done by utilizing technology using ceramic membranes, because ceramic technology is a technology that is currently being developed. Meanwhile, improving Clean and Healthy Living Behavior (PHBS) and balanced nutritional intake of toddlers can be done by empowering toddler mothers. The issue of increasing mothers' knowledge, attitudes and abilities to be able to provide food that meets the needs of toddlers as a step to reduce stunting rates requires integrative handling. In general, integration is a process of uniting two or more elements which results in the creation of a desire that works well and correctly. Efforts to reduce stunting will be more effective if specific and sensitive nutritional interventions are carried out in an integrated manner. In the second year the research carried out was to overcome the problems in the first year research, so that the problem formulation was whether there was an effect of maternal empowerment on improving water quality, mothers' knowledge and attitudes about nutrition and PHBS.

RESEARCH METHODS

The type of research carried out is field research (field experiment), which is carried out by experimenting within a certain time limit on several indicators. This research was conducted in 4 villages that have high stunting rates and e coli content in drinking water, namely Sumbul, Tanjung Beringin, Batang Beruh and Silalahi villages in Dairi Regency. The object of the research was the E-Coli and Total Suspended Solid (TSS) content of the water in the 4 villages and water analysis was carried out in the Health and Environment Department laboratory in Kabanjahe. Meanwhile, maternal empowerment intervention activities were carried out at the Batang Beruh Community Health Center, Pegagan Julu IX Village, Tanjung Beringin Community Health Center and Silalahi Community Health Center. Field research was carried out from June-September 2023, followed by data processing, data compilation, report preparation and publication in journal form.

The population in this study were all mothers who had children aged 6-36 months who lived in 4 previously determined villages. The research sample was mothers who had children aged 6-36 months with and without stunting status*stunting* as many as 76 toddlers. Data collection was carried out after approval by the Medan Ministry of Health Polytechnic Ethics Commission with the issuance of Ethical Clearance in April 2023 with number: 01.1639/KEPK/POLTEKKES KEMENKES MEDAN/2023. Data analysis was carried out using different statistical tests, namely*paired t test dan Independent samples test.* Meanwhile, to determine changes in mothers' knowledge and attitudes regarding PHBS and balanced nutrition for toddlers, frequency distribution was carried out before and after the intervention.

RESULTS AND DISCUSSION

A. Overview of Research Locations

Dairi Regency is one of 33 districts/cities in North Sumatra Province with an area of 192,780 hectares, which is around 2.69% of the area of North Sumatra province (7,160,000 hectares) which is located in the northwest of North Sumatra Province. In general, Dairi Regency is at an average altitude of 700 s.d. 1,250 m above sea level, with 15 sub-districts. Total population of Dairi district at the end of the year 2021 is as many as 318,616 souls.

Dairi Regency has regional boundaries, where to the north it borders Karo Regency; to the east it borders Samosir Regency and Lake Toba; to the south it borders Pakpak Bharat Regency; and to the west it borders Southeast Aceh Regency.

To date, in Dairi Regency there are 15 sub-districts, namely Berampu, Gunung Sitember, Lae Parira, Parbuluan, Pegagan Hilir, Sidikalang, Siempat Nempu, Siempat Nempu Hilir, Siempat Nempu Hulu, Silahisabungan, Silima Pungga-Pungga, Sitinjo, Sumbul, Tanah Pinem and Tigalingga.The indigenous people who inhabit the Dairi district are tribalPakpak

Batak. And other tribes are generally tribesToba Batak, With, and immigrants from other areas such as tribesJava, Chinese, Aceh, Minangkabauand others. The language used is other than the national languageIndonesiais languageToba Batak, wings, andWith.

Dairi Regency has very potential natural wealth which can be utilized as a means to support the community's economy. Both from the tourism sector and the agricultural sector. In the agricultural sector, Dairi has long been famous among the public because it has quite potential natural resources. Besides that, it has great potential in the agricultural sector. Various kinds of plants will thrive, such as coffee which is well known to the wider community, corn, oranges, rice, vegetables, tubers and various types of onions. The potential and natural wealth that is owned means that the Dairi people generally earn an income from agriculture.

B. Overview of Intervention Activities Empowering Mothers of Toddlers

The implementation of this second year's research activities includes activities to address the stunting problem in an integrative manner, namely tackling the environmental and nutritional aspects simultaneously.

C. Mitigation from an Environmental Health perspective

This activity is focused on improving water quality by creating a tool that has the ability to filter, therefore technology is used that can overcome this, namely a water filtration method accompanied by a system.*backwash.* This tool has been tested in the community, the tool is as shown in Figure 1.

Figure 1. Backwash System Water Filtration

This tool has been handed over to the Batang Beruh, Sumbul and Tanjung Beringin Community Health Centers to be used and

several more will be handed over when evaluation activities are carried out. This tool has been registered for creation rights with DJKI.

D. Implementation of FGD

Before going to the community, nutrition officers, sanitarians and a team from the Dairi District Health Service were invited to jointly provide input and suggestions regarding the research results in 2022 and the mitigation efforts that will be carried out. The input and suggestions submitted by participants are an addition to improving community empowerment activities. This activity was guided by the researcher and chairman of the North Sumatra Persagi DPD who has been heavily involved in BKKBN for stunting prevention activities. Documentation of this activity can be seen in Figure 4.

Figure 2. FGD activities in the District Health Service Hall. Dairy

E. Increasing Knowledge and Attitudes about PHBS and Balanced Nutrition for Toddlers

This activity was carried out in 4 villages alternately according to the field, some activities were carried out in the Community Health Center hall, there were also activities carried out by going directly to the nearest village from the house of the empowerment participant's mother. The documentation for this activity is:

Figure 3. Nutrition and Environmental Health Education Activities

In this activity, to make it easier to transfer knowledge to mothers of toddlers, a*booklet* which contains balanced nutritional intake, examples and recipes for processing MPASI menus which are equipped with pictures, portions and nutritional values and also contains PHBS.

F. Practice Cooking MPASI Menus Together

The next intervention activity, apart

from providing counseling and education, is the MPASI recipes that already exist*booklet* practiced directly by toddler mothers, the researcher became a guide to the processing stages or steps carried out while still providing emphasis, for example why vegetables and salt are added to the dish later after the dish is cooked, as well as the use of animal and vegetable protein sources. to meet children's nutritional needs. This activity was very well received by the community with many questions being asked and after the food had been cooked, it was given directly to the toddlers present to see the response from the children, and all the toddlers present liked the MPASI that was served. Documentation of these activities can be seen in Figure 6:

Figure 4. Joint MPASI Cooking Activity

G. Respondent Characteristics

The characteristics of the respondents in this case are mothers of toddlers including age, education and occupation, can be seen in table 1.

Table 1
Distribution of Mothers of Toddlers Based on Characteristics

Characteristics	n	%
Age :		
- <20 Years	1	1,3
- 21-25 Years	9	11,8
- 26-30 Years	23	30,3
- 31-35 Years	25	32,9
- 36-40 Years	15	19,7
- 41-45 Years	3	3,9
Education :		
- Finished elementary school	1	1,3
- Finished middle school	8	10,5
- Completed high school/vocational school	61	80,3
- Diploma/Masters	6	7,9
Work :		
- Housewife (IRT)	28	36,8
- Farmer	35	46,1
- Officer	7	9,2
- Self-employed	5	6,6
- Civil servants	1	1,3

Amount	76	100

Based on table 1, it can be seen that the highest distribution of mothers' ages is 31-35 years old at 32.0%, followed by 26-30 years old at 30.3% and 36-40 years old at 19.7%.

If we look at the level of maternal education, it is known that the majority of mothers have a SMA/SMK education, 80.3%, followed by a junior high school education, 10.5%. This shows that the mother's education level is still in the secondary education category, this will affect the type of work and the mother's ability to receive the education provided.

The majority of mothers' jobs are as farmers, namely 46.1%, followed by housewives at 36.8%. Many mothers' jobs in these two categories are probably due to their educational attainment being only secondary so that job vacancies are limited.

H. Child Characteristics

The characteristics of children in this case are toddlers including age and TB/U nutritional status as seen in table 2.

Table 2

Distribution of Children Based on Characteristics

Characteristics	n	%
Age :		
- 6-12 Months	30	39,5
- 13-24 Months	31	40,8
- 25-36 Months	15	19,7
Nutritional Status according to Zscore TB/U:		
- Very short	4	5,3
- Short	46	60,5
- Normal	26	34,2
Amount	76	100

From table 2, it can be seen that for the age of children in the research sample, 13-24 months was 40.8%, followed by 6-12 months with 39.5% and 25-36 months with

19.7%. Meanwhile, according to the nutritional status according to the TB/U Zscore, it was found that 5.3% were very short, 60.5% were short and 34.2% were normal.

I. Decreased E-Coli and Total Suspended Solid (TSS) content

Based on initial laboratory analysis of water, especially E.coli and TSS, it is known that the concentrations of these two parameters are very fluctuating. Initial test results can be seen in Table 3:

Table 3
Measurement of e.coli and TSS parameters in three areas of Dairi Regency before filtration

No	Lokasi	Parameter	Satuan	Hasil Analisa
1	L1	e. coli	MPN/100 ml	4083
		TSS	Mg/L	104
2	L2	e. coli	MPN/100 ml	523
		TSS	Mg/L	98
3	L3	e. coli	MPN/100 ml	1950
		TSS	Mg/L	102

From the results of the laboratory analysis above, it can be seen that the concentration of e. coli and TSS (total suspended solid) are high and exceed water quality standards according to Government Regulation of the Republic of Indonesia No. 82 of 2001 concerning Water Quality Management and control of Water pollution and PERMENKES no. 2 of 2023 concerning environmental health, namely in Chapter II article 5, the quality of drinking water does not contain microbiological, physical, chemical and radioactive elements that can endanger health.

Some water sources that can be used as raw material for drinking water and sanitation hygiene are well water, springs and river water. However, it is often found that well water or other water sources are cloudy, dirty, and smelly. As long as the quantity is still large, we can still try to purify the cloudy/dirty water into clean water that is suitable for use. One method of water purification that is often used by the community is the filtration method.

Filtration is the separation of solid particles from a fluid by passing them through a filtering medium, therefore water filtration is a condition where water penetrates a porous medium to remove suspended substances, so that it can be used by the public for sanitation hygiene purposes or as a source of drinking water. In general, the media used for water filtration are silica sand, palm fiber, activated charcoal, stones, and others.

The filtering method is an option that is often used, apart from not requiring high costs, making filter equipment can use materials that are easily found as a filtering medium. However, the filtration method has shortcomings, namely the media material used has a saturation point which can cause the filtration to not be optimal, so people have to regularly wash or replace the media used, therefore technology is needed that can overcome this, namely a water filtration method accompanied by system*backwash.*

The examination was carried out to determine the content of e.coli and TSS contained in water originating from groundwater. The results of laboratory analysis for e.coli and TSS concentrations are expected to meet the established clean water quality standards. As stated in government regulation no. 82 of 2001, the maximum limit for e.coli parameters is 1898 MPN/lOOml and TSS is 50 mg/1. Based on laboratory analysis after filtration of the water in these three areas, the quantity values of e.coli and TSS can be seen in Table 4.

Table 4

Measurement of e.coli and TSS parameters in three areas of Dairi Regency after being given filtration

No	Lokasi	Parameter	Satuan	Hasil Analisa
1	L1	e. coli	MPN/100 ml	2380
		TSS	Mg/L	74
2	L2	e. coli	MPN/100 ml	203
		TSS	Mg/L	48
3	L3	e. coli	MPN/100 ml	1823
		TSS	Mg/L	72

The decrease in bacteria that occurs during filtration is caused by E. Coli bacteria having a pore size that is larger than the pore size of the filtration. So the process of filtering (filtration) and absorption (adsorption), where the e.coli bacteria are filtered and absorbed by activated charcoal with strong pressure causes the e.coli to stick to the filtration walls, so that the water that comes out is cleaner. This happens because e.coli which is 0.5 - 1 micron in size can be filtered out by filtration. The filtration process functions to filter and capture solid materials, dissolved materials. The decrease in the number of bacteria is also caused by the source of nutrients in the water. At some point, bacterial growth will stop because the nutritional support in the environment is no longer adequate, resulting in a decline in cell numbers due to many cells no longer

receiving nutrition. Until finally at the extreme point it causes total bacterial death.

Total solids (residue) are the materials remaining after the sample water has evaporated and dried at a certain temperature. Residue is considered to be the total content of dissolved and suspended materials in water. During the determination of this residue, most of the bicarbonate which is the main anion in waters has undergone transformation into carbon dioxide, so that the carbon dioxide and other gases that disappear are not included in the total solids value. TSS consists of mud and fine sand as well as microorganisms, which are mainly caused by soil erosion or soil erosion carried into water bodies. Total Suspended Solid (TSS) can float in water and will block sunlight from entering the water layer. Even though sunlight is really needed by microorganisms to carry out photosynthesis. Due to the absence of sunlight, the photosynthesis process cannot take place and as a result the life of microorganisms is disrupted.

A decrease in TSS concentration at the outlet can occur because it has the ability to filter (filtration) and absorb (adsorption) suspended solids (TSS) contained in raw water. And the function of activated charcoal is to purify water.

J. Mother's Knowledge and Attitudes about PHBS

In this research, knowledge is an important component in behavior change. Knowledge is measured using a questionnaire related to Clean and Healthy Living Behavior (PHBS). WhereasAttitude is a view or feeling accompanied by a tendency to act towards a particular object which may or may not be expected. Attitudes are often intentionally directed towards something meaning there is no attitude without an object.The average value of knowledge and attitudes of toddler mothers regarding PHBS can be seen in table 5.

Table 5

Average Value of Mothers' Knowledge and Attitudes About PHBS

	Knowledge		Attitude	
	Before	After	Before	After
Rate-Rata	7,14	10,0	32,06	39,29
SD	1,72591	2,24499	4,44023	3,51308
Minimum	2	6	18	22
Maximum	10	15	33	44
p value	0,0001		0,0001	

Mean Different.	0,19530	0,48144
n	76	76

From table 5 it can be seen that after the empowerment intervention was carried out on mothers, knowledge increased from an average value of 7.14 to 10.0, but the increase has not yet reached the maximum number, namely 15. This indicates that mothers do not yet fully understand about PHBS is mainly about smoking and physical activity. The results of statistical tests concluded that there was a significant difference between knowledge about PHBS before and after the intervention ($p<0.0001$), mothers of toddlers experienced an increase in the average knowledge score of 2.86.

Meanwhile, it can be seen that the average value of maternal attitudes before the intervention was 32.06, after the intervention it increased to 39.29, with an increase of 7.23. If we look at the average value after the intervention, it has not yet reached the highest value, namely 45. The results of the analysis of respondents' answers, most respondents answered incorrectly on question number 3 regarding consumption of fruit and vegetables which must be done every day, respondents said they do not consume fruit every day, especially fruit. because it is related to availability because the market (weekend) is held once a week. Likewise with question number 8 regarding the differences in the benefits of formula milk and canned milk, which respondents considered to be the same as breast milk. The results of statistical tests concluded that there was a significant difference between attitudes about PHBS before and after the intervention ($p<0.0001$), mothers of toddlers experienced an increase in the average knowledge score of 7.23. The distribution of changes in mothers' knowledge and attitudes about PHBS after being categorized can be seen in table 6.

Table 6

Frequency Distribution of Mothers' Knowledge and Attitudes about PHBS

Mother's Knowledge	Before		After	
	n	%	n	%

Good	0	0	19	25,0
Enough	0	0	2	2,6
Less	76	100	55	72,4
Mother's attitude				
Good	17	22,4	65	85,6
Enough	25	32,9	7	9,2
Less	34	44,7	4	5,3
Amount	76	100	76	100

In table 6 it can be seen that before the intervention was carried out, 100% of mothers had knowledge about PHBS in the poor category. After the intervention was carried out in the form of education, discussing the contents of the booklets that were distributed, the mother's knowledge changed to the good category of 25%, sufficient as much as 2, 6% and less by 72.4%. Likewise, these results show that there is still a lot of knowledge among mothers in the poor category. After interviews, several mothers answered that smoking was something their husbands couldn't avoid, so they felt they were used to it and were safe. Regarding physical activity, almost all mothers answered that they do physical activity every day, but they don't know how much time it takes to do physical activity every day.

Clean and Healthy Living Behavior (PHBS) is behavior that is practiced based on the awareness of each individual to prevent health problems such as stunting. Increasing maternal knowledge will encourage mothers to have a positive attitude in dealing with health problems in their family. With good knowledge and a good attitude, it is hoped that individual awareness will increase. There are 10 indicators related to PHBS, all of which, if implemented, will prevent stunting in toddlers. According to research conducted by Apriani (Apriani, 2018) regarding PHBS Household Orders with 10 indicators, there is a significant relationship between clean and healthy living behavior (PHBS) and the incidence of stunting. Toddlers who grow up in a household environment with a poor PHBS category are 0.575 times more likely to experience stunting compared to toddlers who grow up

in a household environment with a good PHBS category.

Likewise, according to Zubaidi (Zubaidi, 2021), there is a relationship between parental smoking behavior and the incidence of stunting in children. This is related to hampered nutritional absorption in children and the priority of the cost of shopping for cigarettes compared to the cost of shopping for nutritious food needed for children's growth and development. the risk of intrauterine failure to thrive (IUGR), which is one of the factors causing stunting.

According to (Nurbaiti et al., 2023), her research shows that there is a relationship between mother's knowledge and her attitude towards preventing stunting. Other research also shows that maternal attitudes are related to efforts to prevent stunting, but there is no relationship between maternal knowledge and efforts to prevent stunting. This research discusses that in preventing stunting, the mother's attitude, including giving food to children, is important because with a good attitude and supported by high knowledge, positive behavior will be reflected. The efforts that have been carried out by the government to improve the behavior of its people in preventing stunting are compiled in a national strategy which consists of 5 pillars to accelerate stunting prevention, specifically pillar 2 which states national campaigns and behavior change communication (Kemenkes, 2018). The strategy to achieve this pillar is to improve interpersonal communication through developing messages tailored to the needs of the target group, namely 1,000 HPK Households, WUS, and young women. Various communication channels such as posyandu, parenting classes, classes for pregnant women, and adolescent reproductive counseling have been used to convey this message (Kemenkes, 2019).

All the indicators in PHBS really support the prevention of stunting in children, so mothers' knowledge and attitudes really need to be improved and become permanent behavior, therefore empowerment of mothers really needs to be supported because mothers are always individuals who are weak in making decisions. Some mothers with environmental situations and conditions that are less supportive, or things that have become a habit in society always put them in a low bargaining position. As in this research, smoking is a normal thing for husbands to do outside or inside the house, for this reason husbands also need to improve their knowledge and attitudes so that mothers receive support and are able to implement PHBS well.

K. Mothers' Knowledge and Attitudes regarding Balanced Nutrition in Toddlers

Mothers' knowledge about balanced nutrition was measured using a questionnaire related to giving food to toddlers and several examples of MPASI foods for toddlers with the composition and

nutritional value included and practiced directly by cooking together at their respective locations. The average value of mothers' knowledge about balanced nutrition can be seen in table 7.

Table 7
Average Value of Mothers' Knowledge and Attitudes AboutBalanced Nutrition in Toddlers

	Knowledge		Attitude	
	Before	After	Before	After
Rate-Rata	7,10	11,26	25,41	31,16
SD	1,74034	2,02891	3,81987	4,97474
Minimum	4	7	18	33
Maximum	13	15	22	44
p value	0,0001		0,0001	
Mean Different.	0,18069		0,44451	
n	76		76	

In table 7 it can be seen that mothers' knowledge about balanced nutrition, especially nutritional needs and food processing processes for stunted children before the intervention was carried out, was an average value of 7.10 and after the intervention it increased to 11.26 with a difference in increase of 4.16. The most common wrong answers (almost 50% of mothers of toddlers answered incorrectly) before intervention were in question number 3 about energy sources for the body, number 8 about solvent nutrients vitamins A, D, E, K, number 14 about the vitamin content in vegetables will disappear if boiled too long and number 15 is about the high nutritional content of vegetables and fruit. After carrying out cooking activities with MPASI, and demonstrating when vegetables are included in cooking, the mothers understood it better. The results of statistical tests concluded that there was a significant difference between mothers' knowledge about balanced nutrition before and after the intervention ($p<0.0001$), mothers of toddlers experienced an increase in the average knowledge value of 4.16.

Table 7 also shows that the average score for mothers' attitudes regarding balanced nutrition has increased, although the rate of increase has not yet reached the highest score. The average score before the

intervention was 25.41 and after the intervention it was 31.16 with an increase of 5.75 points. Several things that are obstacles to having a better attitude are because the level of knowledge is still not good, where around 51.3% of mothers' knowledge is in the sufficient and insufficient categories, and is influenced by other factors such as level of education, work and the environment which is still not fully supportive. full of parenting activities for toddlers, such as preparing menus for toddlers that are not yet well understood, mothers in feeding children follow inherited knowledge passed down by their parents, and mothers of toddlers do not yet realize that if their child is short it will be a problem in the future , some mothers assume that it is normal for them to appear short when they are small, but as they get older their children will grow bigger by themselves. The distribution of changes in mothers' knowledge about balanced nutrition after being categorized can be seen in table 8.

Table 8

Distribution of Mothers' Knowledge and Attitudes Regarding Balanced Nutrition in Toddlers

Mother's Knowledge	Before		After	
	n	%	n	%
Good	1	1,3	37	48,7
Enough	2	2,6	11	14,5
Less	73	96,1	28	36,8
Mother's attitude				
Good	0	0	13	17,1
Enough	4	5,3	16	21,1
Less	72	94,7	47	61,8
Amount	76	100	76	100

In table 8 it is more clearly seen that before the intervention was carried out, the mother's knowledge level was greatest in the poor category at 96.1%, after the intervention activities were carried out into the good category at 48.7%, sufficient at 14.5% and the poor category at 36. 8 %. In terms of increasing this knowledge, what provides the greatest increase in mothers' insight is after practicing cooking with MPASI, meaning the cooking stages of staple food sources, animal and vegetable protein,

vegetables as well as adding salt which is recommended last. This processing practice was carried out directly by the mothers, guided by the researchers through the stages.

In table 8 it can be seen that before the intervention, the majority of mothers' attitudes were in the poor category (97.4%) and only a small portion were in the sufficient category (5.3%). After the intervention was carried out, there was an increase in the good (17.1%), sufficient (21.1%) and poor categories by 61.8%. This still doesn't provide a good picture, therefore health workers still need to work hard, in this case nutrition implementers (TPG) in the field, to continue to provide motivation and food processing practices, because when we do the practice of cooking together, we make MPASI. simple, participants said that they had never been taught how to cook food for toddlers, and from the simple MPASI menu using local food ingredients it turned out that the toddlers who participated were quite eager to consume the food.

Stunting really needs to be prevented as early as possible, because if this stunting condition continues and becomes more widespread among Indonesian children, it is feared that it will have a wider long-term impact on cognitive, educational and cultural abilities, abilities and endurance as well as physical skills and endurance. various chronic diseases, thus it can be predicted that stunted children will increasingly burden the country in terms of education, human resources and health. Therefore, education on balanced nutrition is an important part of preventing stunting.

Education is part of health education activities. Health education is defined as a learning process carried out for individuals, families, groups and communities with the aim of changing unhealthy behavior to healthier patterns. The health education process involves several components, including using teaching and learning strategies, maintaining decisions to make changes in action/behavior, and health education also focuses on changing behavior to improve their health status.

Knowledge about nutrition is an initial process that determines behavioral change regarding the improvement of nutritional status, so that knowledge is an internal factor that influences behavioral change. The mother's knowledge about nutrition will determine the mother's behavior in preparing food for the family. Mothers with good nutritional knowledge can provide the right type and amount of food to support their child's growth and development. Mother's knowledge about nutrition is one of the factors causing stunting in children (Nurfatimah et al., 2021).

This research is in line with Ginanjar's research (Ginanjar, 2022) where the researcher has the assumption that after health education using the lecture method greatly influences the mother's knowledge about stunting, while in this study the methods used are lectures, discussions and

direct practice and the tools used are booklets that have been made in such a way with an easy and simple recipe. Knowledge is a mediator of behavior change. Although it is not absolute that good knowledge will give birth to good behavior. However, knowledge is the starting point for a change in behavior for the better. This shows that nutrition education activities over a longer period of time, repeated discussion and practice activities will provide better knowledge value compared to short meetings. This can happen because there is closeness that is built between the facilitator and participants so that the discussion atmosphere is fluid and the material can be absorbed more optimally.

The role of parents, especially mothers, is very important in fulfilling children's nutrition because children need parental attention and support in facing very rapid growth and development. To get good nutrition, parents need good nutritional knowledge in order to provide a balanced menu of choices so that stunting does not occur. A person's level of nutritional knowledge influences attitudes towards preventing stunting.

Likewise, this intervention activity will greatly influence mothers' attitudes about stunting, as it is known that increasing knowledge will give positive results to mothers' attitudes, so it will be effective in changing mothers' behavior and it will be easier for mothers to understand and practice what is received in educational activities in prevention stunting.

CONCLUSION

In this research it can be concluded that there is an influence of the use of ceramic membranes on the content of E Coli and Total Suspended Solid (TSS). There is an influence of Health Education (PHBS) on increasing the knowledge and attitudes of mothers of toddlers. There is an influence of nutrition education on the knowledge, attitudes and skills of mothers of toddlers regarding balanced nutrition in children *stunting*

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