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# The Effect of Counseling to Mother's Knowledge on the Nutrition of Stunting

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**Abstract.** Stunting is an issue of nutrition in which malnutrition accumulates in the long term. 7.8 million of 23 million Indonesian toddlers have stunted. Stunting causes physical and mental deficiency in children, restricts cognitive development, affects health status in teenagers and adults, and even increases the risk of death. One of the means to resolve stunting is by counseling to develop the mother's knowledge of the nutrition needed for stunting children. This research aims to know the effect of counseling on a mother's knowledge level about the nutrition needed for stunting children. This is Quasy experiment research with a pretest-post-test with a control group design. Thirty-eight mothers participated in the sample selected by purposing sampling. They were divided into two groups of 19 people in it. An experimental group and a controlled group. The mothers tested their knowledge using a questionnaire that had undergone a validity and reliability test. The result shows that there is a difference in knowledge level between the post-test of an experimental group and the controlled group with a p-value of 0.000. It can be concluded that counseling affects the mother's knowledge level on the nutrition of stunting children in the Apitaik Village, East Lombok.

**Keyword:** children; counseling; knowledge level; nutrition; stunting

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## 1. Introduction

The occurrence of toddlers with stunting is the main problem that Indonesia faces. *Stunting* is a condition in which toddlers do not grow according to age. This condition occurs because their height-for-age is above two standard deviations below the WHO Child Growth Standards median.

Based on WHO data in 2017, Indonesia has the second highest stunting prevalence/toddlers with short stature (*kerdil balita*) in Southeast Asia, under Laos, with 43.8%. WHO issued 20% max or one-fifth of the total toddlers' number for stunting tolerated threshold (short stature) (World Health Organization, 2017). While in Indonesia, 7.8 million (around 35.6%) of 23 million toddlers suffer from stunting. 18.5% were categorized as having very short stature, and 17.1% were categorized as having short stature. Due to this, WHO defined Indonesia as a Country with poor nutrition. On the other side, East Lombok Regency is included as one of the 100 prioritized regencies to overcome the issue of stunting children (Kementerian Kesehatan Republik Indonesia, 2018).

Malnutrition in children will increase the risk of death, restricting cognitive development and affecting their health as teenagers and adults (Arisman, 2012). Another effect of malnutrition on toddlers is physical and mental disorders. These disorders will be complex and uncurable during their time as babies or at a young age and will restrict their development in the future (Suhardjo, 2010).

Stunting can be prevented by improvement in nutrition. There are Specific Nutrition Intervention and Sensitive Nutrition Intervention. Specific Intervention is a means to prevent and reduce nutrition issues directly, while Sensitive Intervention is a set of building activities outside the health sector. In this research, counseling is related to Specific Nutrition Intervention. The health sector conducted this activity by using a specified target, which is 1000 first days of life (*Hari Pertama Kehidupan-HPK*) of children aged 0-6 months and 7-23 months.

Based on the interview with mothers having toddlers in Apitaik Village, most mothers have low knowledge of nutrition for children. Most of them did not receive any literacy on nutrition for children to prevent stunting. In Apitaik Village, the researcher still found many toddlers with stunting. Thus, the researcher conducted a counseling session for the mothers on nutrition to prevent stunting. Hopefully, parents understand the importance of nutrition needed for children with stunting. Thus, their nutritional status can be optimum and reduce the effects of stunting.

## 2. Research Methods

This is a quasy experiment using the pretest-post-test design with a control group. The design includes two random-selected groups. They were given a pretest on the first and second day to acquire mothers' knowledge on the nutrition of children with stunting in the experimental and controlled groups. The experimental group has counseling while the controlled group has not. On the third and fourth days, the experimental group was given the counseling session door-to-door for 30 minutes. Two research assistants accompanied the researcher, who had the same perception of the research before the counseling began. On the fifth and sixth day (post-test), the mothers will be checked on their knowledge about the nutrition of children with stunting.

The researcher used slides and leaflets as the media when counseling the respondents. The media contains the definition of stunting and how to improve the nutrition of children with stunting (specific nutrition intervention) aged 0-6 months and 7-23 months. Among the specific intervention for children aged 0-6 months are early initiation of breastfeeding (IMD-*Inisiasi Menyusui Dini*), exclusive breastfeeding, and proper handwashing. For children aged 7-23 months, breastfeeding until the children reach 23 months of age along with providing weaning food (MP-ASI), administering a deworming medication, administering zinc supplement, fortifying zinc into food, protection of malaria, administering complete immunization, and preventing and treating diarrhea.

The researcher used a quetionnaire containing 51 multiple choice questions to collect the data on mothers' knowledge of the nutrition of children with stunting. The quetionnaire has been tested for its validity and reliability. Before, there were 56 questions, but four questions were invalid with r count value < r table. All questions are reliable based on the reliability test result with Cronbach alpha > 0.60. Mann Whitney test was used as the statistic test of this research. Before, a data normality test was conducted. The result was that both post-test results from the experimental and controlled groups were not normally distributed.

## 3. Research Results

a. Respondent Characteristics

The respondent characteristics include children's age, mother's education, and occupation.

**Table 1** Respondent Characteristics Based on Children's Age, Mother's Education and Occupation

| Characteristics | Group | Category | N | % |
|---|---|---|---|---|
| Children's age | Experimental | 0-6 months | 0 | 0 |
| | | 7-23 months | 19 | 100 |
| | Controlled | 0-6 months | 0 | 0 |
| | | 7-23 months | 19 | 100 |

| Characteristics | Group | Category | N | % |
|---|---|---|---|---|
| Mother's education | Experimental | Junior Highschool | 11 | 57,9 |
| | | Highschool | 8 | 42,1 |
| | Experimental | Elementary School | 4 | 21,1 |
| | | Junior Highschool | 4 | 21,1 |
| | | Highschool | 11 | 57,9 |
| Mother's occupation | Experimental | Merchant | 8 | 36,8 |
| | | Housewife | 7 | 21,1 |
| | | Farmer | 9 | 42,1 |
| | Experimental | Merchant | 5 | 26,3 |
| | | Housewife | 9 | 47,4 |
| | | Farmer | 5 | 26,3 |

Table 1 shows that both experimental and controlled groups have 19 children aged 7-23 months (100%). Regarding education level, the experimental group has 11 respondents (57.9%) educated in Junior high school, while the controlled group has 11 (57.9%) educated in Highschool. Lastly, the experimental group has nine respondents (42.1%) working as a farmer, while the controlled group has nine (47.4%) as housewives. In terms of education level, the distribution of the respondents included 11 respondents (57,9%) educated in Highschool, four respondents (21,1%) educated in Junior high school, and four respondents (21,1%) educated in Elementary school.

a. The Level of Mother's Knowledge in Experimental Group Before and After Counseling on Nutrition of Children with Stunting

**Table 2** The Level of Mother's Knowledge in Experimental Group Before and After Counseling

| | Level of Knowledge | N | % |
|---|---|---|---|
| Before Counseling (*Pretest*) | Good | 8 | 42,1 |
| | Enough | 11 | 57,9 |
| | Bad | 0 | 0 |
| After Counseling (*Post-test*) | Good | 19 | 100 |
| | Enough | 0 | 0 |
| | Bad | 0 | 0 |

Table 2 shows that 11 people (57,9%) in the experimental group have Enough knowledge before counseling. After counseling, all mothers have a Good knowledge level (100%).

b. The Level of Mother's Knowledge in Controlled Group During Pretest and Post-test

**Table 3** The level of Mother's Knowledge in Controlled Group During Pretest and Post-test

| | Level of Knowledge | N | % |
|---|---|---|---|
| *Pretest* | Good | 2 | 10,5 |
| | Enough | 17 | 89,5 |
| | Bad | 0 | 0 |
| *Post-test* | Good | 2 | 10,5 |
| | Enough | 17 | 89,5 |
| | Bad | 0 | 0 |

Table 3 shows that either pretest or post-test, 11 people (57.9%) in the controlled group have an Enough level of knowledge on the nutrition of children with stunting.

c. The Difference Level of Mother's Knowledge on Nutrition of Children with Stunting in Experimental and Controlled Groups

**Table 4** The Difference Level of Mother's Knowledge on Nutrition of Children with Stunting in Experimental and Controlled Groups

| Level of Mother's Knowledge | *P-value* |
|---|---|
| *Pretest* and *Post-test* Controlled Group | 0,070 |
| *Pretest* and Post-test Experimental Group | 0,000 |
| *Post-test* of Controlled and Experimental Groupp | 0,000 |

Table 4 shows that the p-value during pretest and post-test as the result of the Wilcoxon test in the controlled group is 0.070 (> 0.05). It means there is no difference in the level of the mother's knowledge. Before and after the counseling, the p-value is 0.000 (< 0.05), meaning there is a difference in the level of the mother's knowledge. From the Man Whitney test, the p-value during the post-test in controlled and experimental groups is 0.000 (< 0.05), meaning there is a difference in the level of the mother's knowledge. In other words, counseling affects the level of a mother's knowledge on the nutrition of children with stunting.

**Table 5** Experiment Result

| No | Data | Accuracy (%) |
|---|---|---|
| 1 | 0011-A | 60 |
| 2 | 0011-B | 63 |
| 3 | 0011-C | 70 |
| 4 | 0011-D | 55 |
| 5 | 0011-E | 84 |

**4. Research Discussion**

The research result divides children's age into two categories. Children aged 0-6 months and 7-23 months. During this period, they are vulnerable, which causes them to suffer from diseases and be prone to malnutrition (Soetjiningsih, 2014). In addition, this period builds children's personalities, and they need specific care for it. In terms of education, most respondents have studied in Highschool. This statement is appropriate to Notoatmodjo (2007), he stated that mothers' education level strongly affected providing nutritional needs to their children because education is a means for one to learn and, hopefully, apply their knowledge in concrete action. Education is the fundamental matter of how one thinks to resolve an issue. One's education level relates to his/her health level. The higher the mother's knowledge level, the more aware of their health (Notoatmodjo, 2007a). Regarding occupation, most mothers work as farmers and housewives. These two jobs are low-income jobs. As a housewife, the mother depends on her husband for the economy. While those who work as farmers do not have fixed incomes. It can be predicted that their family has a low income. Having low income affects their choices of nutritional food for their toddlers. Poverty and malnutrition are intertwined phenomena. Thus, improving the nutritional value in one's community will also develop the economy (Kementerian Kesehatan Republik Indonesia, 2016).

Regarding bivariate test results, two tests were conducted. The Wilcoxon test showed no difference in the mother's knowledge level in the controlled group. Either during pretest or post-test (p-value 0.070). In comparison, respondents in the experimental group showed a difference in mothers' knowledge levels during the pretest and post-test. In other words, before and after the counseling on the nutrition of children with stunting (p-value 0.000). From Mann Whitney test, the result showed that there is an effect of counseling on a mother's knowledge level during the post-test in the experimental and controlled groups in which the p-value is 0.000.

Counseling improves the knowledge level in the experimental group. It is a means of delivering information related to health which can affect one's knowledge. In other words, counseling is a process of planned behavioral change in an individual, group, or community. Before, they do not know the value of maintaining their health or handling their health issue. After the counseling, they know the value of maintaining their health and being independent in handling their health issues.

The result of counseling will be more optimum when it is provided via a medium. It helps to direct all senses to the counseling object. The medium is the device for educating people. In this research, the researcher used slides of power point that people could see through their eyes. Experts said that the eyes are the most used sense to deliver knowledge to the brain by 75%-87%, while other senses contribute 13-25% (Nies & McEwen, 2001).

The research result correlates with Ernawati et al. (2013) research stating that counseling affects mothers' knowledge level on their toddlers' nutritional status in a Health Center of Antang Community Health Center in Makassar Public Housing in which the p-value is 0.000 (Ernawati et al., 2013). Yurika's research (2009) stated that there is an effect of providing health education via speech, discussion, or presentation towards knowledge (*p-value* 0,004), behavior (*p-value* 0,005), and mother's skill (*p-value* 0,019) in monitoring their toddler's development in the subdistrict of Sukaramai, Baiturrahman district, Banda Aceh (Yurika, 2009). Another research that correlates with this research is Ade's research (2020), showing that there is an effect of nutritional counseling via speech by using slides as a medium towards the changes in mother's knowledge level in providing weaning food to children aged 6-24 months (Ade, 2020).

Notoadmodjo (2007) stated that one exposed to a certain topic would have more knowledge than one who did not (Notoatmodjo, 2007b). Knowledge is crucial because it becomes a domain to affect one's behavior and action (Nasution, 2010). In this research, each mother was given counseling individually, so they would understand the theories provided more. The researcher adjusted the theories to fulfill what mothers need. It is comprehensive, consisting of the nutrition of children with stunting. The result is that the mothers are enthusiastic about following the counseling. After the counseling, the researcher opened a Q&A session so the mothers could ask everything about stunting, including theories that the researcher delivered that they did not understand. The more the mother can acquire new knowledge on children's nutrition, they will have better knowledge level which impact their children’s development (Azwar, 2011).

## 5. Conclusion and Future Research

Four points can be summarized in this research. 1) An increase in the number of mothers who have better knowledge after counselling. From 8 people (42.1%) to 19 people (100%); 2) There is not a significant increase in the mother's knowledge level in the controlled group during pretest and post-test. The amount is still the same. 2 people have good knowledge (10,5%), and 17 people have Enough knowledge (89,5%); 3) There is no difference in knowledge level in the controlled group during pretest or post-test (p-value 0.070), while in the experimental group, there is a difference in mother's knowledge level before and after the counselling (p-value 0.000); 4) Counseling affects mother's knowledge level on the nutrition of children with stunting (p-value 0,000).

Based on the result, the Head of the Village needs better coordination with Health Community Center to conduct counselling due to the importance of counseling about the nutrition of children with stunting. The village should also empower health cadres. Thus, they will provide counselling independently, even though the health community center still monitors their activities.

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