

THE INFLUENCE OF FETAL STIMULATION EDUCATION ON THE KNOWLEDGE AND ATTITUDE OF HEALTH CADRES

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Abstract: Stimulation during prenatal is a good sign for healthy fetal development. The more a pregnant woman stimulates or stimulates the baby's auditory nerves in the womb, the more neural pathways to the brain will develop and become stronger so that when the child is born, they will be better prepared for the world outside the womb. Health cadres are volunteers who are close to the community, it is hoped that with increased knowledge about fetal stimulation they can provide assistance to pregnant women, especially providing education about fetal stimulation. The purpose of this study was to determine the effect of mentoring health cadres on fetal stimulation in pregnant women on knowledge and attitudes. The research method uses a quasi experiment with a control group design. The sample is health cadre, with a sampling strategy using purposive sampling with a sample size of 56 people. The location used is the Cipayung Health Center area, East Jakarta. There is a significant difference in knowledge in the intervention group and control group before and after the intervention Kader mentoring model on Fetal Stimulation in Pregnant Women (p value = 0.001) and Attitude (p value = 0.000)

Keywords: Health cadres; fetal stimulation; knowledge; attitude

INTRODUCTION

The first years of fetal life in the womb up to the age of two are a very important period for the most rapid growth and development of the human brain (Ministry of Health, 2016).

An important time in the development of the fetus begins at the age of 5 months of pregnancy. The interaction between the baby and the environment will stimulate brain development before and after childbirth (Rere Van de Carr, 2017).

Khasanah (2017), that the results of developmental screening in 30 provinces in Indonesia found that 45.12% of infants experienced developmental disorders. Research in West Java gave the result that 30% of children experienced developmental disorders and 80% of them were caused by a lack of stimulation.

Lowdermilk (2013) factors that cause developmental disorders are heredity, neuroendocrine, nutrition, interpersonal relationships, socioeconomic and disease and lack of stimulation since in the womb. A mother who actively involves the baby in the womb, by communicating and providing prenatal stimulus can create a conducive uterine environment and can have a positive influence on the baby's life in the future.

According to Verny T and Kelly T (Deswani, 2018), suggest that at a certain age the fetus can already distinguish which situations or conditions are pleasing to him and which are making him uncomfortable. The fetus will react through movements, as well as stress that lasts a long time will affect the fetus through the release of hormones that enter the blood circulation.

Someone who is experiencing excessive stress will release the hormone cortisol, this hormone through the placenta will enter the fetal blood circulation. Excessive hormones for a long time and continuously will accumulate in the body of the fetus, as a result the fetus will be conditioned and trigger an increase in the production of the hormone cortisol in the body. Therefore it is important for pregnant women to be able to manage their stress and maintain their inner peace.

Various studies have shown that everything that is experienced by the mother during pregnancy will affect the intelligence of the unborn baby. The baby's brain grows very rapidly during the time the fetus is in the womb, and the fetus is aware of what is happening outside the womb. The results of Indrajati's research, H (2017) The uterus is a classroom, where at that time the fetus can learn about many things, learn to achieve optimal physical and psychological development and develop the baby's brain and nerves before birth.

The results of Eka's research, 2015 show that health education about fetal stimulation can increase the motivation of pregnant women in carrying out fetal stimulation. The intensity of communication between pregnant women and the fetus as auditory stimulation and brain development. According to Andriana, 2013, that since a mother is declared pregnant, at that time the mother can start her child's education through stimulation, even though it is still a fetus. The efforts of pregnant women in providing stimulation to the fetus will have a good impact on their future children, especially in vocabulary mastery because they have been introduced since they were in the womb (Suria, 2019). Likewise, Rahmawati, 2020, that health counseling about fetal stimulation can increase pregnant women's knowledge.

Community health cadres are men or women who are selected by the community and trained to deal with health problems and individuals and communities and work in very close relationships with places where health services are provided (Syafudin and Hamidah, 2009).

Thus the health cadres are volunteers who are chosen by the community and are tasked with developing the community; in this case the cadres are also activators or promoters. In order to be able to carry out their roles and duties, it is therefore necessary to be fostered, guided and supported by skilled and experienced supervisors. In this case, cadres need to increase their knowledge about fetal stimulation, so they can provide education on fetal stimulation to pregnant women around their environment.

METHOD

The research design used was a quasi-experimental study with a control group design. The research was conducted by providing health education interventions regarding the stimulation of fetal intelligence in the intervention group. The study population was health cadres in the sub-district health center; the sample was the Crocodile Hole health cadres as many as 30 people for the intervention group and 30 people for the control group from the Ciracas sub-district. The variables in this study were the knowledge and attitudes of health cadres about fetal stimulation before and after the study.

This research will be conducted in January - October 2022. The research location that will be used is the Cipayang sub-district health center, East Jakarta.

The research has passed the ethical test at the Sim-EpkPoltekkesKemenkes Jakarta III.

RESULTS AND DISCUSSION

In the following, we present the results and discussion of the research as follows:

1. Description of Respondent Characteristics

The results of the analysis of the characteristics of the respondents in the intervention group and the control group based on age are as follows:

Table 5.1 Characteristics of respondents based on the age of the respondents

| Variable | Group | N | Means | Median | SD | Min-max |
|-----------------------|--------------|----|-------|--------|--------|---------|
| Respondent Age | Control | 30 | 37,70 | 34.5 | 7,835 | 25-59 |
| | Intervention | 30 | 37,87 | 36 | 10,712 | 21-58 |

The results of the analysis show the average age of the respondents in the intervention group, ie 37.87 years, the youngest age is 21 years and the oldest 58 years, while in the control group the average age of the respondents was 37.70 years with the youngest age 25 years and the oldest 59 years

Table 5.2 Distribution of Respondent Characteristics Based on Education and Length of time as a cadre

| Variable | Kel. Intervention | | Kel. Kontrol | | Total | |
|-----------------------------|-------------------|------|--------------|------|-------|---|
| | N | % | N | % | N | % |
| Education | 29 | 96.7 | 25 | 83.3 | 54 | 9 |
| Low education | | | | | | 0 |
| higher education | 1 | 3,3 | 5 | 16,7 | 6 | 1 |
| | | | | | | 0 |
| Long time as a cadre | 22 | 73.3 | 25 | 83.3 | 47 | 7 |
| Less than 5 years | | | | | | 8 |
| More than 5 years | 8 | 26,7 | 5 | 16,7 | 13 | 1 |
| | | | | | | 2 |

Table 5.2 shows that the characteristics of the intervention and control groups are the majority of low educational backgrounds while the length of time being a cadre is good for the intervention group

2. Homogeneity test

This test is a condition before conducting bivariate and multivariate tests. The test used for numerical data uses an independent t test. This test is used because it compares the means of the two data groups, namely the intervention group and the control group. The chi-square test is used for categorical data, because the data to be compared is the difference in the proportions of the two data groups. In detail can be seen in

Table 5.3 Analysis of Equality in Education, Length of Respondent's Age as Cadre Knowledge Ad Attitudes Between Groups

| Variable | Intervention (N=45) | | Control (N=45) | | P-Value* |
|--------------|---------------------|------|----------------|------|----------|
| | N | % | N | % | |
| 1. Education | - | - | - | - | 0.897 |
| - SD | | | | | |
| - JUNIOR | 7 | 23,3 | 6 | 20 | |
| HIGH | 22 | 73,3 | 19 | 63,3 | |
| SCHOOL | 1 | 3,3 | 5 | 16,7 | |
| - SENIOR | | | | | |
| HIGH | | | | | |
| SCHOOL | | | | | |
| - College | | | | | |

| | | | | | | |
|------------------------------------|-----------------|-------------------|-------------------------------|-------------------|-------------------------------|-------------------|
| 2. How Long Have You Been A Cadre? | < Than 5 Years | 22 | 73,3 | 25 | 83.3 | 0.818 |
| | >= From 5 Years | 8 | 26,7 | 5 | 16,7 | |
| | | Means (SD) | Median (Range Min-Max) | Means (SD) | Median (Range Min-Max) | P-Value ** |
| Respondent's Age | | 37.87 (10,712) | 36 (21-58) | 37.70 (7.835) | 34.50(25-59) | 0.075 |
| Knowledge | | 12.52 (2,385) | 13 (6-16) | 12.07 (2.27) | 12.50 (8-16) | 0.919 |
| Attitude | | 30 (4,144) | 29 (25-41) | 29.89 (4.200) | 29.50 (25-41) | 0.889 |

Information : *p-value based on *Chi Square Test*
 : **p-value based on *Independent t test*

The results of the analysis of the equivalence test (homogeneity) in table: 5.3 above show that there is no difference in education, length of time as a cadre, age, knowledge and attitudes between the intervention group and the control group before being given the Cadre assistance model intervention on Fetal Stimulation in Pregnant women.

3. Differences in knowledge and attitude scores before and after the intervention Cadre mentoring model on Fetal Stimulation in Pregnant women in the intervention and control groups

Table 5.4 Analysis of knowledge and attitude scores before and after the intervention of the Cadre Mentoring Model on Fetal Stimulation in Pregnant Women

| Variable | Group | Means | SD | 95% CI | Q | P-value |
|-----------------|------------------|--------|-------|-------------|-------|--------------|
| Knowledge score | Ex. Intervention | | | | | |
| | Before | 12.52 | 2,385 | 2.661-0787 | 3,770 | 0.001 |
| | After | 14,24 | 1.154 | | | |
| | Difference | 1,724 | 6,233 | | | |
| | Ex. Control | | | | | |
| | Before | 12.07 | 2,273 | 1.509-0.708 | 739 | 0.466 |
| After | 12.47 | 1,525 | | | | |
| Difference | 0.400 | | | | | |
| Attitude | Ex. Intervention | | | | | |
| | Before | 30.00 | 4,144 | 8329-4138 | 6,084 | 0.000 |
| | After | 36,23 | 5,624 | | | |
| | Difference | -6,233 | | | | |
| | Ex. Control | | | 2.422-0355 | 1,522 | 0.139 |
| | Before | 29.87 | 4,200 | | | |
| After | 30,90 | 4,943 | | | | |
| Difference | 1.033 | | | | | |

The results of the analysis showed that there was a significant difference in knowledge in the intervention group and the control group before and after the intervention of the Cadre Assistance Model on Fetal Stimulation in Pregnant Women (p = 0.001) with the difference in the average value of increasing knowledge scores in the intervention group being greater (difference value = 1,724) whereas in the control group the average difference in score was 0,400. Furthermore, the results of the analysis of the Attitude variable also showed that there were significant differences in the intervention group before and after the intervention of the Cadre Assistance Model on Fetal Stimulation in Pregnant Women (p = 0.000) with a difference in the mean score increase in Attitude score in the intervention group was greater (p = 0.000) = 6.233) while in the control group the average score difference was 1.33

4. Differences in knowledge and attitude scores between groups

Table 5.5 Analysis of knowledge and attitude scores after the intervention of the cadre mentoring model on fetal stimulation in pregnant women

| Variable | Group | N | Means | SD | 95% CI | F | P-value |
|-----------|--------------|----|-------|-------|-----------|-------|--------------|
| Knowledge | Intervention | 30 | 14.27 | 1.143 | 2597-8070 | 0.832 | 0.000 |
| | Control | 30 | 12.47 | 1,515 | 2596-0071 | | |
| Attitude | Intervention | 30 | 36.23 | 5,624 | 1103-2497 | 3,431 | 0.000 |
| | Control | 30 | 30.90 | 4,943 | 1102-2498 | | |

The results of the analysis showed that there were differences in respondents' knowledge ($p = 0.000$) between the intervention group and the control group after the Cadre Assistance Model intervention on Fetal Stimulation in Pregnant Women. Similarly, there were differences in respondents' attitudes between the intervention group and the control group ($p = 0.000$).

5. Effect of Intervention Cadre mentoring model on Fetal Stimulation in Pregnant Women

a. Multivariate Analysis

To determine the effect of the characteristics of the Cadre assistance model on Fetal Stimulation in Pregnant Women on knowledge and attitudes, the authors used multivariate analysis with a risk factor model with the selection of candidate multivariate variables by connecting all independent variables with the dependent variable using the chi-square test. Independent variables that are candidates for inclusion in the multivariate model are those that meet the p Value requirement of less than 0.250. The results of bivariate selection can be seen in the following table:

Table 5.6 Results of analysis Candidate Selection Results Multivariate Variables Regarding the characteristics of Cadres

| Independent Variable | Dependent Variable | P-value |
|---------------------------------|--------------------|---------|
| | Knowledge | |
| Age | | 0.732 |
| Education | | 0.257 |
| How long have you been a cadre? | | 0.057 |
| | Attitude | |
| Age | | 0.510 |
| Education | | 0.151 |
| How long have you been a cadre? | | 0.366 |

From table 5.6 the candidates included in the multivariate model are the characteristics of the length of time as a cadre associated with the dependent variable Knowledge, while for the dependent variable attitude that is included in the model is the education characteristic variable.

The results of the analysis show that the variable characteristic of the duration of being a cadre has an effect on fetal stimulation in pregnant women. Meanwhile, the attitude variable that influences fetal stimulation in pregnant women is the education variable.

From the results of multivariate analysis with multiple logistic regression tests, the p value of each variable was produced. Variables that have a p value > 0.05 will be excluded in stages, starting from those with the largest to the smallest p values. Because of each dependent variable there is only one variable, the following is the final model.

Discussion

Based on the results of research on fetal stimulation education, there were mean differences in knowledge, attitudes in the intervention group and the control group, before and after the intervention in the intervention group. By using the dependent t test between the intervention group and the control group, the p value was obtained in the intervention group for the variable knowledge (p value = 0.001), attitude (p value = 0.000).

The results of the independent t test showed that there were significant differences in knowledge and attitudes between the intervention group and the control group after the intervention (p value = 0.000). Hal this can be concluded, that there is an effect of fetal stimulation education on health cadres on knowledge and attitudes.

It was concluded that education on fetal stimulation is effective in increasing knowledge. Likewise with Rahmawati's research results, 2020, that health counseling about fetal stimulation can increase knowledge.

Some research results related to knowledge will be described as follows. The results of this study showed that most of the respondents (66.7%) still answered incorrectly about the fetus requiring stimulation. Fetal stimulation can be done from the moment the mother is declared pregnant, at that time the mother can start educating her child through stimulation, even though it is still a fetus. Babies begin to learn about the world they live in while they are in the womb. With prenatal experiences that go through can form expectations about life outside the womb, and to prepare for life after birth. When a baby is in the womb, his brain is still forming neural connections that are important for learning (James, 2010).

Stimulation given to the fetus during pregnancy will establish a bond between mother and fetus, and teach the fetus about the world in the womb by stimulating its senses during pregnancy; prenatal sensory experiences help shape the baby's brain (Hepper, 2015).

The fetus in the womb can begin to hear at the age of 24 weeks, the results of the study found that 60% of respondents answered correctly. Likewise, a soft and regular sound will affect the fetus to feel calmer. The inner ear of the fetus develops on

24 weeks gestation, and the fetus can hear at this stage. When the fetus encounters a new sound being played in the mother's abdomen at this stage, the fetal heart rate drops briefly as they adjust to the new sound, indicating they can differentiate between the different sounds (Field, 1998).

In this panel, the youngest respondent was in the intervention group, 21 years old and the oldest is 58 years, while in the control group the average age of the respondents is 37.7 years with the youngest being 25 years and the oldest being 59 years. This shows that this age is an energetic and active age.

Most of the respondents have low secondary education background with educational background High School (SMA), this makes it easier for someone to communicate and adapt to change.

The attitude in this study is how the cadres view the stimulation of the fetus. Cadres have a positive attitude/view of fetal stimulation. The importance of fetal stimulation for pregnant women, therefore pregnant women are highly recommended and motivated to do fetal stimulation.

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