

The impact of explosive box counseling on improving knowledge and attitudes of reproductive-age couples to prevent stunting

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Abstract

Background: Stunting is a nutritional problem due to nutrient deficiency during the first 1000 days of life. Efforts to prevent the occurrence of stunting are essential, considering the impact that will be caused. One way is to provide health education to couples of childbearing age so that they can prepare for their pregnancies well. This study aimed to determine the effect of counseling using explosion boxes to increase the knowledge and attitudes of fertile-age couples. This research uses an analytical, operational study with a quasi-experimental research design with a non-equivalent control group design. This research was conducted by providing health education as a form of intervention that was preceded by measurement of knowledge before and after the intervention.

Method: The study used a quasi-experimental method with a non-equivalent control group design. This research sample is a fertile age couple in the working area of the Office of the Religious Affairs of Sirah Pulau Padang, Ogan Komering Ilir District (OKI) which amounted to 64 respondents. The sampling method uses purposive sampling. The experiment group with the Explosion Box for media education and the control group with the lecture method which was previously given a pretest first and after 14 days. Furthermore, it was analyzed with a dependent sample t-test and an independent sample t-test.

Results: The study showed that there was a significant influence in increasing knowledge both in the experimental group ($p = 0,000$) and the control group ($p = 0,000$) and the good attitude in the experimental group ($p = 0.003$) and the control group ($p = 0.000$). Furthermore, there was no significant difference between respondents' knowledge in the experimental & control group ($p = 0.413$) with a difference of 0.78 and the attitude of the experimental & control group ($p = 0.607$) with a difference of 0.98.

Conclusion: Counseling with an explosion box is more effective in increasing the knowledge and attitudes of fertile-age couples, even though there is no statistical difference between an explosion box and a lecture.

Keywords: Lecture, explosion box, knowledge, attitude, stunting.

INTRODUCTION

The goal of health development in RPJMN 2015-2019 is to lower the prevalence of malnutrition in infants, including stunting. Stunting is a condition where children's height is shorter than the height of another child's age and can cause the disruption of physical, mental, intellectual, and cognitive developments (1,2). One of the target development targets will be achieved in 2019 is lowering the prevalence of infants two years stunting to 28% (3).

Based on the data of the Joint Child Malnutrition Estimates, about 22.2% (150.8 million) toddlers in the world were stunted in

the year 2017 (4). Indonesia occupies the third position with the highest stunting prevalence in the South-East Asia region (5). Riskesdas Data Shows that the proportion of infants two years stunting in Indonesia in 2018 amounted to 29,9% (6). while in South Sumatra province, the stunting percentage of the infant's two years group amounted to 14.3% (7).

Stunting is a condition that occurs from the failure of growth in the golden period/due to insufficient nutritional deficiency accompanied by other infectious diseases (8). In addition, Stunting is also supported by other factors that are low levels of one's

knowledge of Stunting that will affect how to behave and behave. Knowledge is a determinant of a person's change (9). knowledge underlies one in making decisions and determines attitudes and actions in the face of a problem (10).

The childbearing age is included in the stunting prevention target group (11). In the newly wed married couple, pregnancy is the most awaited moment. It is important to note that the stunting concept is essential to maintain the health and nutrition of mothers before and during pregnancy with the aim to avoid giving birth to short babies (< 48 cm) and BBLR (< 2500 grams) that have stunting risk. Therefore, it is necessary to prepare the pregnancy that will be related to the outcome of pregnancy, so that preparation must be as early as possible with the purpose of having a baby (12).

So far, there are many people who do not understand the importance of conditions in the days before the conception process, so that the prospective fathers and mothers only focus on the preparation of pregnancy and childbirth. This is understandable because of the lack of knowledge about preconception conditions due to the absence of counseling-counseling against them (13). Nutritional Status of WUS or women of childbearing age for three to six months in preconception time will Determine the condition of the infant to be born. A perfect nutrient prerequisite in preconception is the key to the birth of normal and healthy babies (14).

The Status of nutritional and maternal health in the pre-pregnancy, when pregnant and while breastfeeding is a very critical period for the growth and development of children. The mother is therefore obliged to maintain her nutritional status by receiving full support from her husband. Pregnant women whose nutritional status is less risky to have a child stunting by 7 times compared to pregnant women with good nutrition status) (15). Pregnant women suffering from chronic energy deficiency are at risk of experiencing stunted fetal growth and low birth weight babies (16). The shortage of chronic energy in pregnant women is characterized by the upper arm circumference (LiLA) < 23, 5cm.

Expectant mothers with less nutritional status are also at risk 3 times to suffer anemia from the mother who is nutrient status is good so that the mother anemia should be given tablets minimum blood increase 90 tablets consumed daily during pregnancy (17,18). Also, make sure that other macro and micro nutrition intake should be met since early pregnancy and supported by good environmental sanitation to avoid nutritional problems including stunting (19).

Husbands have a role in the pregnancy process to provide full support during pregnancy, including ensuring the fulfillment of prospective mothers and prospective children's food and provide a healthy environment and also access health services adequate (20). Health and nutritional status of prospective fathers should be cared for well because it will affect prospective children.

Health education is an activity to convey health messages to the community with the goal of improving health knowledge and changing attitudes for the better. to easily accept and digest information, health education to be supported with appropriate educational media. The use of media will certainly help clarify the information submitted, because it is more interesting, more interactive, and can be able to overcome the boundaries of space, time and human sense information.

About 75-87%, human knowledge is obtained through the sense of vision that is transmitted to the brain. Explosion Box is a visual medium that combines the art of paper folding with futuristic technology using box/cube. Representation is like a blast that when the cube lid is opened, the four sides of the box will be an open net and display the writing, drawing, which is in attractive design as the maker wishes so that the respondent will be curious and more enthusiastic to notice and observe the material conveyed in the box. In addition, the media is meant to be a wedding gift addressed to the newly married fertile age couple for the last 6 months and contains material about stunting prevention.

Based on previous research, 3D Dentobox (Dental Explosion Box) can be used as an educational medium to prevent dental

caries and improve oral health in children. In the event of an increase in the average knowledge prior to counseling 69.16 and after counseling at 83.7 with $P < 0.05$ (15). In line with the research conducted (19) mentioned that the nutrition education conducted with the Media explosion box has an influence on the knowledge and attitudes about anemia in young women in SMAN 23 Jakarta Barat after pretest and posttest with P-value of 0, 0001 The purpose of this research is to know the influence of counseling with the explosion box on the enhancement of knowledge and attitudes of the childbearing age about stunting prevention in the working area of the Office of the Religious Affairs of Sirah Pulau Padang before after intervention.

METHOD

The study used a quasi-experimental method with a non-equivalent control group design. This research sample is a fertile age couple in the working area of the Office of the Religious Affairs of Sirah Pulau Padang, which amounted to 64 respondents. Sampling is done by purposive sampling and considering the defined inclusion and exclusion criteria. The inclusion criteria of this research are women and men of fertile and productive age (15-49 years), never before married, newly married in the last 6 months and not pregnant and living in the working area of the Office of the Religious Affairs of Sirah Pulau Padang. The variables measured were the knowledge and attitudes of couples of childbearing age regarding stunting prevention through intervention by providing one-time counseling, namely for the experimental group with the Explosion Box and the control group with the lecture method which was previously given a pretest first and after 14 days a posttest was carried out. Pretest and posttest in the form of a questionnaire. Counseling contains the meaning of stunting, the causes of stunting, the impact of stunting, and prevention efforts after receiving counseling. Data analysis using univariate and bivariate.

This study was ethically approved by the health research ethics committee Faculty of

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RESULTS

A. Univariate Analysis

Table 1. Characteristics of Respondent

| Characteristics | Total (n=64) | Experimental Groups (n=32) | Control Groups (n=32) |
|---------------------------|--------------|----------------------------|-----------------------|
| Age of respondents | | | |
| < 20 years | 9 (14,1 %) | 2 (6,3%) | 7 (21,9%) |
| 25-35 years | 55(85,9%) | 30 (93,8%) | 25 (78,1%) |
| > 35 years | - | - | - |
| Education level | | | |
| Elementary School | 3 (9,4 %) | - | 3 (9,4%) |
| Junior High School | 8 (25 %) | - | 8 (25%) |
| High School | 17 (73,4%) | 29 (90,6%) | 18 (56,3%) |
| College | 6 (9,37%) | 3 (9,4%) | 3 (9,4%) |
| Nutritional Status | | | |
| Skinny | 11 (17,2%) | 4 (12,5%) | 7 (21,9%) |
| Normal | 32 (79,7%) | 27 (84,4%) | 24 (75%) |
| Fat | 2 (3,125%) | 1 (3,1%) | 1 (3,1%) |

Source: Primary Data

Based on the results of Table 1 analysis obtained from 64 respondents it can be seen that in both groups of majority age are the same in the age group 25-35 years. In the experimental group of 30 people (93.8%) And the control group is 25 people (78.1%). The level of education of respondents in the most experimental group with high school education was 29 people (90.6%), while in the last educational control group, the respondents were 18 (56.3%). The majority of the nutritional status of respondents in the experiments group and the controls tend to be normal nutritional status in the experimental group of 27 people (84.4%) And the control group were as many as 24 people (75%).

B. Bivariate Analysis

Table 2. Analysis of the fertile age pair's knowledge scores on stunting before and after intervention in experimental and control groups

| Variable | Experimental Groups (n=32) | Control Groups (n=32) | Sig (p) |
|------------------------------|----------------------------|-----------------------|---------|
| Knowledge (Mean ± SD) | | | |
| Pre | 11.56 ± 3.48 | 10.56 ± 2.95 | 0.000 |
| Post | 16.75 ± 4.47 | 15.97 ± 2.94 | |
| Δ ₁ | 5.19 ± 3.47 | 5.41 ± 2.28 | |
| Sig (p) | 0.000 | 0.000 | |

Source: Primary Data

Table 2 shows that the average respondent's knowledge in the experimental group prior to obtaining extension with the explosion box was 11.56 with a standard deviation of 3.48, and increased to 16.75 with a standard deviation of 4.47. The average change in the respondent's knowledge in the experimental group was 5.19 with the result of a P-value of 0.0000. While on the average control group the knowledge of respondents prior to obtaining a health education lecture was 10.56 with the standard deviation of 2.95, and increased to 15.97 with the standard deviation of 2.94. The average change in the respondent's knowledge in the control group was 5.41 and obtained P-value 0.0000. This means that counseling using an explosion box and a lecture equally gives a significant effect on increasing the knowledge of respondents.

Table 3. Differences in the childbearing age regarding the stunting prevention between groups before and after intervention in experimental and control groups

| Group | Mean | SD | Mean Difference | P-value |
|--------------|-------|------|-----------------|---------|
| Experimental | 16.75 | 4.47 | 0.78 | 0.413 |
| Control | 15.97 | 2.94 | | |

Source: Primary Data

Table 3 shows that the average knowledge score change in the experimental group given the extension with the explosion box is 16.75 with a standard deviation of 4.47, while in the control group given the health education with The average lecture changes the respondent's knowledge score to 15.97 with a standard deviation of 2.94. Statistical

test result obtained p value value 0.413 > 0.05, statistically there is no average difference in the knowledge score between respondents who get counseling with an explosion box and lecture with a difference of 0.78 points.

Table 4. Analyses of the fertile age couple's attitude scores on stunting prevention before and after intervention in experimental and control groups

| Variable | Experimental Groups (n=32) | Control Groups (n=32) | Sig (p) |
|-----------------------------|----------------------------|-----------------------|---------|
| Attitude (Mean ± SD) | | | |
| Pre | 65.69 ± 5.09 | 62 ± 7.59 | 0.000 |
| Post | 69.47 ± 6.29 | 68.5 ± 8.54 | |
| Δ ₁ | 3.78 ± 6.51 | 6.5 ± 5.09 | |
| Sig (p) | 0.003 | 0.000 | |

Source: Primary Data

Table 4 shows that the average attitude of the respondent to the experimental group prior to obtaining the extension with the explosion box was 65.69 with a standard deviation of 5.09, and increased to 69, 47with the standard deviation of 6.29. The average change in the respondent's attitude to the experiment Group was 3.78 with the result of a P-value of 0.0000. While in the average control group the attitude of respondents before obtaining a health education with the lecture is 62 with the standard deviation 7.59, then increased to 68.5 with standard deviation of 8.54. The average change in the respondent's attitude to the control group was 6.5 and obtained P-value 0.0000. This means that counseling using an explosion box and a lecture equally gives a significant influence on the attitude of the respondent.

Table 5. Differences in the fertile age pair's attitude about the stunting prevention between groups before and after intervention in experimental and control groups

| Group | Mean | SD | Mean Difference | P-value |
|--------------|-------|------|-----------------|---------|
| Experimental | 69,47 | 6,29 | 0,97 | 0,607 |
| Control | 68,5 | 8,54 | | |

Source: Primary Data

Table 5 shows that the average attitude in the experimental group given the extension

with the explosion box is 69.47 with the standard deviation of 6.29, while in the control group given the health education with the average talk change the attitude score of respondents was 68.5 with the standard deviation 8.54. Statistical test result obtained p value value $0.607 > 0.05$, statistically there is no difference in the average attitude score between respondents who get counseling with an explosion box with the respondents who get a health education with a lecture with a difference of 0.97 points.

DISCUSSION

Based on the average difference it is obtained that the explosion box in the experimental group and the lectures on the control group are equally good in enhancing the knowledge and attitudes of the fertile age mates.

Knowledge before and after given counseling with explosion box

The results of research obtained about stunting prevention knowledge before and after education in the experimental group showed an average score increase of 5.16. While in the control group, increased knowledge after the education of 5.41. Knowledge is something that a person knows through the introduction of information sources, previously acquired ideas either formally or non-formal.²⁹ knowledge is not something that already exists and others live accepting it, but is a process of formation that is carried out continuously by a person who at all times has reorganized new understandings. In the provision of health education on stunting, respondents who have been exposed to the stunting material or 1000 HPK are more attached to their memory. So when given health education about stunting it will be easier to absorb the material provided. According to Dalyono (19) that a person's intelligence is influenced by several factors, such as provisioning, formation, interest and distinctive provisioning and freedom.⁷ Researchers have argued that supporting media and the right strategy can enrich the knowledge of the fertile age couple about stunting prevention such as explosion boxes and lectures. In addition, it can also be an

effort to improve the socialization of stunting prevention in the area Sirah Pulau Padang. The use of writing AIDS will lead to improved knowledge than with words. With the media it is expected the ability or acceptance of one's knowledge will be more optimal.

The increased knowledge score of respondents in the experiment group can be influenced by the media itself. Explosion box is a visually-shaped medium that makes it easier for respondents to capture information. The unique explosion provides its own appeal for respondents to view, read, and understand the material in the box as well as listen to the material also conveyed by researchers. Provision of stunting prevention material is not only done once, but at least twice that done after the respondent was given pretests and before the respondent was given posttest. Not to mention if the respondent read back the contents of the explosion box that was intentionally abandoned researchers for the respondent, of course will affect the respondent's memory to the acceptance of information on the prevention of stunting. While the knowledge score of respondents with lecture methods because the respondent only focuses on what was conveyed by the respondent, here the respondents are trained to be good listeners and capture and conclude lectures quickly and right. When in smaller groups, the focus and attention of the respondent will actually be addressed to the lecturer (researcher) who is delivering the material.

The results showed that there was an effect of nutrition education using explosion box media on the knowledge and attitudes of young women regarding anemia ($p \leq 0.05$) (19). that health education with the method of lectures is effective in enhancing the knowledge of adolescents from using multimedia flash, using a method of lecture giving lectures can be done optimally. stating that there is a difference of knowledge about the administration of MP-ASI before and after the method of the lecture with the value $p < 0.001$.

Attitude before and after performed counseling with explosion box and lecture

The results of the research gained on the childbearing age of stunting prevention before and after education in the experimental group showed an average score increase of 3.78. Meanwhile, in the control group there was an increased attitude after the education 6.5. Prior to the education, either the experiment group or the control group had a low score. A low score signifies an unsupportive attitude (unfavorable). In fact, a person will demonstrate a good evaluation response to a new thing. In this case the increase of the respondent's attitude score after education. In accordance with the Rogers Theory (1974), attitudes are the responses that arise before the action. The initial process is that one realizes and knows the stimulus (stimuli) given, then the attitude of the subject begins to arise stimulus to stunting prevention, until finally formed an attitude to try to do according to the stimulus.

Attitudes are the readiness or willingness of a person to behave or respond to something good about positive stimuli or negative stimuli of a stimulus object. Attitude is a predisposing factor for a person to behave., determining whether the respondent should be pro and cons to something, determining what is preferred, expected and desirable, and what to avoid especially in preventing stunting. Good attitudes can be due to the increasing influence of knowledge. The attitude of the childbearing age about stunting is influenced by the knowledge and belief factors gained from sensing, one of which is found in education and learning process. The behavior done on the basis of knowledge will be more enduring than behavior that is not based on knowledge. Researchers have argued that intervention in the form of education with explosion boxes and lecture methods in stunting prevention gives new information to the fertile age pair. Information from such interventions becomes a new cognitive foundation for the fertile age couple. The Explosion box used by researchers presents pictures of a positive attitude in stunting prevention, so that in the provision of information researchers

demonstrate a positive attitude. So some respondents who initially did not support being supportive (favorable) against stunting prevention.

This is in line with the research conducted (19) that there is the influence of nutritional education with the media explosion in the attitude of anemia in young women in SMAN 23 West Jakarta with a significant value $0,0001 < 0,005.28$ stated there is a difference of knowledge of the mother about the administration of MP-ASI before and after the method of lecture with the value $p < 0,001.32$ It is also supported by research Kartika et al (2023) that there are differences Nutritional Counseling in the 1000 HPK group in The value of $p = 0.004$ means <0.05 , it can be concluded that there are differences in levels knowledge between the group that was educated.

The average difference of respondents ' knowledge given by an explosion box versus a lecture

The results of the research using the Independent Sample test is obtained p value $0,413 > 0.05$, which means that statistically there is not a difference in the average knowledge score between respondents who get a health education with a media explosion box with respondents who get a health education with a method of lecture with a difference of 0.78 points. This situation means that health education using an explosion box and a lecture method both have an influence on increasing respondents ' knowledge. According to the researchers, changes in the knowledge score increase in both groups of treatment are possible due to various matters relating to the process of delivering health education on stunting. This is the health education material in the media used in a complete and interesting health education process, so that respondents easily understand the content of health education is very interesting without eliminating the main message of the material about stunting, so it is highly preferred and easily accepted by respondents. Or there are other reasons that cause increased knowledge scores in both treatment groups because the media

explosion box is made through several stages and a long process, including the media planning is made based on the analysis of the material needs, shape, color and size of the explosion box desired by the target. The explosion box trial has undergone a change in the point of improvement from the suggestions and feedback submitted by some sources, especially media speakers. This is done to minimize the barriers that occur when the health education process is administered.

In addition to the absence of differences in the media effectiveness of the two treatment groups, it can also be caused by the information provider (researcher) being the person they do not know well. This is that success in conveying information is determined by the nature and quality of the information received and in turn is determined by the nature and quality of the personally escorted relationship involved. The influence of health education using visual media of the explosion box and the lecture method equally affects the increased knowledge of respondents about stunting. It is also in line which states that there is no difference in the influence of HIV/AIDS health Education with brainstorming methods and lectures with audio visual students SMAN 4 Tangerang Selatan with P Value (0,566) value $> 0,005$.³⁵ In addition, states that there is no meaningful difference between health counseling and group discussion methods and lectures on adolescent reproductive health with the value of P Value (0,213) $> 0,005$.

Unlike the research (2) which states the use of visual love cards children's card (KCA) is effective in increasing the knowledge of bride candidate about 1000 first day of because seen from data analysis results obtained P value < 0.05 (P = 0.000).

The average difference in the attitude of respondents given a health education with an explosion box compared to the lecture method

The result of data processing using the Independent Sample test is obtained p value $0.607 > 0.05$, where the meaning is statistically there is no difference in the average attitude

score between respondents who get a health education with a media explosion box with respondents who get a health education with a method of lecture with a difference of 0.97 points. This situation means that health education using an explosion box and a lecture method both have an influence on improving the respondent's attitude. According to researchers there is no difference in the attitudes of the two groups of these treatments can be due to the increase in the level of respondents' attitude scores of each group which is equally high at the time of posttest. A good knowledge of respondents affects how respondents are doing and judging about stunting. Thus, the average attitude increased when the post test of both media groups makes health education either with media explosion box or method of lecture.

In accordance with Masrurroh stating that there is no difference in the influence of health education using methods of lectures and group discussions on increasing young women's knowledge of the hygiene of Genitals tools with P-value $0.277 > (0.05)$.³⁷ It is also in line with Damayanti (18) that there is no difference in meaning the attitude of respondents to the method of health education methods of lectures and booklets in women of childbearing age concerning breast cancer (p value = 0.714).

CONCLUSIONS

Based on the research results, it was concluded that there was a significant influence between knowledge and attitudes between respondents who were given counseling with explosive boxes and lectures. Then there is no difference of knowledge and attitude between respondents who get counseling with an explosion box and lecture. Nonetheless, counseling with the explosion box is more effective in enhancing the knowledge and attitude of the elderly couple. The local religious affairs Office is implementing a bridal course for the bride especially in the field of health, especially in the case of prevention of children stunting by working with local health centers using a proven explosion box can be Improving the

knowledge and attitudes of the childbearing age include health counseling, TT injection, nutritional status screening, LiLA measurement, and HB level checking.

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