

IMPROVEMENT OF PREGNANT WOMEN'S PERCEPTION ON STUNTING PREVENTION THROUGH ISLAMIC-BASED PRENATAL CLASSES**Eka Oktarina Riani¹, Said Devi Elvin¹, Eka Warnidar¹**¹*Jurusan Keperawatan, Poltekkes Kemenkes Aceh**Jl. Tgk. Mohd. Daud Beureueh No. 110, Bandar Baru, Kec. Kuta Alam Kota Banda Aceh , Indonesia***Article Info**

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Eka Oktarina Riani

Email:

ekaoktarina@poltekkesaceh.ic.id

Abstract

One of the causes of stunting is the nutritional deficiency of pregnant women. To prevent stunting, pregnant women must be educated about nutrition through prenatal classes. The purpose of this research is to determine the effectiveness of Islamic-based prenatal classes in improving pregnant women's perceptions of stunting prevention. This research is a quasi-experimental study on pregnant women in the Meuraxa District of Banda Aceh. Power analysis is used to determine the sample size, resulting in 64 pregnant women in the intervention group and 64 pregnant women in the control group. The intervention consists of an Islamic-based prenatal class conducted in five sessions, each lasting sixty minutes. The data collection instrument to understand pregnant women's perceptions of stunting prevention was developed by the researcher based on the Health Belief Model (HBM) theory. Data collection was conducted twice, namely before the intervention (pre-test) and after the intervention. (post test). Data analysis used descriptive statistics, namely frequency distribution and non-parametric statistics, namely the Wilcoxon Signed Rank Test and the Mann Whitney U Test to assess the difference in mean scores between the intervention group and the control group. The research results indicated that there are differences in perceptions of pregnant women between the intervention group and the control group regarding the prevention of stunting in children, namely perceptions of vulnerability (P-value = 0.048), perceptions of severity (P-value = 0.015), perceptions of benefits (P-value = 0.048), and perceptions of barriers (P-value = 0.002). Based on the results, the Islamic-based prenatal class program for pregnant women has proven effective in enhancing the perception of pregnant women in preventing stunting in their unborn children as early as possible.

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1. Introduction

Stunting is a condition of children under the age of five (toddlers) who have a length or height less than their age or a condition with a length or height of more than minus two standard deviations based on the median of child growth standards according to the World Health Organization (WHO) (Laksono et al., 2022). Stunting is often not realized by the community where short stature in children is so common that it is considered normal.

Difficulties in visually identifying stunted children and the lack of routine assessment of linear growth in primary health care explain why it takes so long to recognize stunting. However, after years of neglect, stunting is now identified as a top priority global health problem (De Onis et al., 2016). One of the factors that cause stunting is malnutrition in pregnant women which causes fetal growth to be stunted and infectious diseases in pregnancy can result in premature delivery. These two conditions are important contributors to stunting in early childhood (Black & Heidkamp, 2018).

According to the results of Basic Health Research (RISKESDAS), the prevalence of stunting is known to have decreased from 37.6% in 2013 to 30.8% in 2018 (Ministry of Health, 2018). The prevalence of stunting also decreased based on the results of the Indonesian Nutrition Status Survey (SSGI), which was 27.7% in 2019 to 24.4% in 2021 and again dropped to 21.6% in 2022. Meanwhile, the prevalence of stunting cases in Aceh Province in 2022 is 31.2% and is still above the national prevalence. Meanwhile, Banda Aceh City is also still above the national prevalence for stunting cases in 2022, which is 25.1% (Ministry of Health, 2022).

There are two main factors that cause stunting, namely the condition of the mother and the factor due to the condition of the child (Dwitama et al., 2018). Maternal factors that cause stunting include malnutrition in pregnant women, poor maternal health during pregnancy, close pregnancy distances, and adolescent mothers (Laksono et al., 2020). Meanwhile, the factors due to the child's condition are not optimal intake of exclusive breast milk (ASI), premature feeding of MP-ASI, genetic factors, and malnutrition in children. In addition, a history of infectious diseases is also a risk factor for stunting in children (Abd El-Maksoud et al., 2017)

Among all these factors, the nutritional status of the mother during pregnancy is a crucial causative factor in the first thousand days of life. Pregnant women's nutrition is the main food source for the growth and development of embryos which is the beginning of life (Costa et al., 2019). Malnutrition during pregnancy is the beginning of life in the first 1000 days of life, where growth occurs very rapidly, dangerous for stunting in the first two years of life (Black & Heidkamp, 2018). Damage during pregnancy cannot be repaired in later phases of life and will affect health outcomes in childhood and adulthood (Soetjningsih & Ranuh, 2016). Therefore, the nutrition of pregnant women is an important factor in determining the incidence of stunting

Several studies have linked the relationship between care during pregnancy and stunting incidence. Simbolon et al. (2021) in a study showed that the prevalence of stunting was higher in toddlers from adolescent married mothers (42.4%) than adult married mothers (35%). The prevalence of stunting was also higher in children under five from teenage pregnant women (44.4%) compared to mothers of sufficient age (35.6%). Adolescent pregnancy is associated with stunting incidence. Married adolescent women are 1.2 times at risk, and women who are less than 20 years pregnant are at 1.3 times at risk of stunting toddlers. Adolescent pregnancy increases the prevalence of stunting. Integrated cross-sectoral interventions are needed to prevent teenage pregnancy.

Furthermore, a study also showed that pregnant women received a minimum of 90 Fe pills (blood-boosting tablets) p-value = 0.002 (p<0.05), pregnant women who

participated in nutrition counseling/pregnant women classes p-value = 0.246 ($p > 0.05$), pregnant women who received nutritional monitoring produced p-value = 0.004 ($p < 0.05$), households with pregnant women had latrines, Furthermore, a study also showed that pregnant women received a minimum of 90 Fe pills (blood-boosting tablets) p-value = 0.002 ($p < 0.05$), pregnant women who participated in nutrition counseling/pregnant women class p-value = 0.246 ($p > 0.05$), pregnant women who received nutritional monitoring produced p-value = 0.004 ($p < 0.05$), households with pregnant women had latrine

Research on the effectiveness of nutritional health education programs for pregnant women has also been conducted by Permatasari et al. (2021). The results of this study showed that pregnant women in the intervention group showed a significant improvement in knowledge, attitudes, and practices about nutrition and reproductive health after receiving education. The average pre-test and post-test scores in the intervention group were 55.1 and 83.1 for overall knowledge, 40.2 and 49.0 for attitude, and 36.2 and 40.2 for practice, respectively. In the control group, there was no significant difference between the mean pre-test and post-test scores for the three variables. There was a significant difference ($P < 0.001$) in the mean post-test between the intervention group and the control group, but the difference was not significant ($P > 0.05$) in the pre-test.

Furthermore, the research of Oktaviani and Sulistyawati (2022) on the effect of assisting pregnant women on changes in attitudes and behaviors in stunting prevention showed that the average score of attitude change showed a significant difference in the assisted group with a pretest of 65.8 ± 7.8 , increasing at the time of the post test of 75.7 ± 2.7 . This study concluded that pocket books are more effective in increasing pregnant women's attitudes towards stunting prevention.

Based on several previous studies, care interventions in pregnant women have been proven to be able to increase knowledge, attitudes and skills in stunting prevention.

However, throughout the search by researchers, there has been no research on Islamic-based prenatal classes in pregnant women for stunting prevention. This research is important considering the local popularity of the Acehese people based on Islamic Sharia. This research will later combine natal ante care in pregnant women with the concept of Islam in pregnancy care sourced from the Quran and Hadith.

2. Methods

This study uses a quasi experiment design carried out in Meuraxa District, Banda Aceh City. The number of samples was determined based on power analysis with medium effect size (0.5) and power (0.8), confidence level (confidence level) of 95% and alpha 0.05. So, the size of the sample of this study is 64 respondents per group. The research location was selected by cluster random sampling to determine the village where the research was conducted, namely from 16 villages in Meuraxa District, Banda Aceh City, 4 villages were selected (2 intervention group villages and 2 control group villages). Meanwhile, the number of samples was randomly selected and the number of samples for the intervention group was 64 pregnant women and the control group was 64 pregnant women (the total number of samples was 128 pregnant women). The selection of the intervention group and control group is based on the results of the cluster random sampling that has been determined. Intervention to the case group is carried out based on the module of the Islamic-based prenatal class program for pregnant women. The data collection instrument was adopted from Elfeshawy et al. (2022) which consisted of: 1) the perception of the seriousness of stunting was measured by submitting 5 statements; 2) the perception of vulnerability to stunting was measured by submitting 5 statements;

3) Perception of the benefits of stunting prevention is measured by submitted 5 statements; and 4) the perception of obstacles in stunting prevention was measured by submitting 5 statements. The instrument is arranged in the form of five points on the Likert scale with alternative answers to positive statements being Strongly Agree = 5, Agree = 4, Hesitate = 3, Disagree = 2 and Strongly Disagree = 1. While the alternative answers for negative statements are Strongly Agree = 1, Agree = 2, Hesitant = 3, Disagree = 4 and Strongly Disagree = 5. The lowest score is 20 and the highest score is 100. The reliability value of this instrument according to Ciftci et al. (2020) is 0.98. The intervention for the prenatal class group consisted of five sessions, 60 minutes per session over five days. The first session is about pregnancy in an Islamic perspective; the second session on the health of pregnant women in Islam (physical and psychological); the third session on pregnancy care according to Islamic teachings; the fourth session on nutrition for pregnant women according to Islamic teachings; ; and the fifth session on pregnancy care roleplay based on Islamic teachings. Interventions will be delivered face-to-face. Intervention methods include lectures, demonstrations and discussions. Data analysis used descriptive statistics, namely frequency distribution, and non-parametric statistics, namely the Wilcoxon Signed Rank Test and Mann Whitney U Test, to assess the difference in average scores between the intervention group and the control group. The non-parametric test is used because the scale of the research variable is in the form of an ordinal scale.

3. Results

Table 1 Characteristics of Respondents (n = 128)

No	Characteristic s	Interventoin Group (n=64)		Control Group (n=64)		Homog enit
		Frequency	Percentage	Frequency	Percentage	
Age						
1	20 – 35 Years	55	85.6	56	86,6	
2	36 – 45 Years	9	14.4	8	1,4	
Education						
1	Higher	20	31.4	21	32,4	
2	Intermediate	39	60.3	38	59,3	
3	Basic	5	8.3	5	83,3	
Employment Status						
1	Employed	19	30.3	20	31,3	
2	Unemployed	45	69,7	44	68,7	
Number of Children						
1	2 Children	50	78.5	51	79,4	0,314
2	More than Children	14	21.5	13	20,5	
Pregnancy Care						
1	> 1 time	53	82.7	54	83,7	
2	1 Time	9	13.5	8	12,5	
3	Never	2	3.8	2	3,8	
Parity Status						
1	Gravida					
	a. Primigra vida	11	16.7	12	17,7	
	b. Multigra vida	53	83.3	52	81,2	

No	Characteristics	Intervention Group (n=64)		Control Group (n=64)		Homogeneity
		Frequency	Percentage	Frequency	Percentage	
2	Partus					
	a. Primipara	11	16.7	12	17,7	
	b. Multipara	52	82.3	51	81,3	
	c. Grande Multipara	1	1.0	1	1,0	
3	Abortus					
	a. none	61	95.8	62	96,8	
	b. There are	3	4.2	2	3,2	

Based on Table 1, it can be concluded that the intervention group and the control group are statistically homogeneous. Furthermore, the characteristics of the respondents in the intervention group with the highest proportion were 20-35 years old, namely 55 people (85.6%), secondary education 39 people (60.3%), 45 people (69.7%), 50 people (78.5%), 53 people (82.7%) had > pregnancy care once, 53 people (83.3%) were multigravida, 52 people (82.3%) were multipara and 61 people (95.8%) had never had an abortion. Meanwhile, the characteristics of the control group respondents were the most aged 20-35 years, namely 56 people (86.6%), secondary education 38 people (59.3%), 44 people (68.7%), having 2 children as many as 51 people (79.4%), doing pregnancy care > 1 time as many as 54 people (83.7%), multigravida 52 people (81.2%), multipara 51 people (81.3%) and 62 people (96.8%) never had an abortion.

Table 2 Differences in Perceptions of Pregnant Women in the Intervention Group on Prevention of Stunting in Children between Before and After Health Education Islamic-based (n=64)

Variable	Measurement	Mean Rank	Sum of Ranks	Wilcoxon Signed Rank Test
Vulnerability Perception	<i>Pre Test – Post Test</i>	32,50	28,00	0,000
Perception of Seriousness	<i>Pre Test – Post Test</i>	3,00	15,00	0,034
Benefit Perception	<i>Pre Test – Post Test</i>	3,50	21,00	0,014
Perception Obstacles	<i>Pre Test – Post Test</i>	6,00	66,00	0,001

Table 2 shows that there are differences in the Islamic-based intervention group between pre-test and post-test Islamic-based health education on stunting prevention in children related to the perception of vulnerability (P-value = 0.000), perception of seriousness (P-value = 0.034), perception of benefits (P-value = 0.014) and perception of barriers (P-value = 0.001)

Table 3 Differences in Perception of Pregnant Women in the Control Group on Prevention of Stunting in Children Between Pre Test and Post Test Measurements (n = 64)

Variable	Measurement	Mean Rank	Sum of Ranks	Wilcoxon Signed Rank Test
Perception of Vulnerability	<i>Pre Test – Post Test</i>	1,50	3,00	0,157
Perception of seriousness	<i>Pre Test – Post Test</i>	1,00	1,00	0,317
Perception of Benefits	<i>Pre Test – Post Test</i>	1,50	3,00	0,157
Perception of Obstacles	<i>Pre Test – Post Test</i>	1,00	1,00	0,317

Table 3 shows that there is no difference in the control group between pre-test and post-test measurements on stunting prevention in children related to the perception of vulnerability (P-value = 0.157), perception of seriousness (P-value = 0.317), perception of benefits (P-value = 0.157) and perception of obstacles (P-value = 0.317).

Table 4 Differences in Perception of Stunting Prevention in Children Intervention Group with Control Group (n=128)

Perception	Measurement	Intervention Group (n=64)		Health Control Group (n=64)		Mann Whitney U Test
		Mean Rank	Sum of Ranks	Mean Rank	Sum of Ranks	
Vulnerability	<i>Pre Test</i>	63,12	4039,50	65,88	4216,50	0,573
	<i>Post Test</i>	59,83	3829,00	69,17	4427,00	0,048
Seriousness	<i>Pre Test</i>	64,99	4159,50	64,01	4096,50	0,808
	<i>Post Test</i>	59,50	3808,00	69,50	4448,00	0,015
Benefit	<i>Pre Test</i>	63,12	4039,50	65,88	4216,50	0,573
	<i>Post Test</i>	59,83	3829,00	69,17	4427,00	0,048
Obstacles	<i>Pre Test</i>	64,50	4128,00	64,50	4128,00	1,000
	<i>Post Test</i>	58,50	3744,00	70,50	4512,00	0,002

Table 4 shows that in the pre-test measurement, there was no difference between the intervention group and the control group related to the perception of vulnerability (P-value = 0.573), perception of seriousness (P-value = 0.808), perception of benefit (P-value = 0.573) and perception of resistance (P-value = 1.000). Meanwhile, in the post-test measurement after being given Islamic-based health education in the intervention group, it was known that there were differences in pregnant women's perceptions of stunting prevention in children, namely the perception of vulnerability (P-value = 0.048), the perception of seriousness (P-value = 0.015), the perception of benefits (P-value = 0.048) and the perception of obstacles (P-value = 0.002).

4. Discussion

1. Intervention Groups

The results of the study in the intervention group showed that there was a difference in perception about the vulnerability of stunting in children who will be born in the intervention group between before and after health education through Islamic-based prenatal classes (P-value = 0.000). Referring to the results of the study, it can be concluded that there is an increase in the perception of stunting vulnerability in children who will be born to pregnant women after being given education through Islamic-based prenatal classes. Elfeshawy et al. (2022) said that the perception of vulnerability, also called perceived vulnerability, refers to a person's perception of the risk or possibility of contracting a disease or health condition. It can also include estimates of susceptibility to disease in general. Risk or vulnerability is one of the stronger perceptions in promoting people to adopt healthy behaviors (Green et al., 2020). The greater the risk of being discarded.

Has et al. (2022) also said that when a person believes that they are at risk of developing a disease, then they will do something to prevent it from happening. And vice versa, when a person believes that they are not at risk or have a low risk of developing a disease, then they tend to behave unhealthily. This also happens to mothers who do not consider their children at risk of stunting, so they do not make maximum efforts to prevent stunting.

Furthermore, the results of the study showed that there was a difference in perception of the seriousness of stunting in children who would be born in the intervention group between before and after health education through Islamic-based

prenatal classes (P-value = 0.034). Perception of seriousness/severity refers to a person's belief about the seriousness and severity of a disease. If you look at the results of the research above, most pregnant women initially did not consider stunting as a serious thing (Sukeri et al., 2020). However, after being given Islamic-based education, namely about Islamic views on pregnancy and its care, there has been an increase in pregnant women's perception of the seriousness of stunting in children.

Anggraini and Putri (2024) in their research found that 53% of mothers who took prenatal classes seriously prepared for birth to prevent stunting in children. Furthermore, Hall et al. (2018) also said that mothers who were given knowledge related to the dangers of stunting had a higher perception of the seriousness of stunting. However, in the search, the researcher did not find any research that used Islamic concepts in increasing pregnant women's perception of stunting prevention. The conclusion that can be drawn is that Islamic-based prenatal classes increase the perception of pregnant women about the seriousness of stunting in children.

The results of this study also showed that there was a difference in perception of the benefits of stunting prevention in children who will be born in the intervention group between before and after health education through Islamic-based prenatal classes (P-value = 0.014). Perception of the benefits of stunting prevention refers to the mother's belief in the effectiveness of preventive measures taken. If you look at the results of the research above, most pregnant women initially did not feel the benefits of stunting prevention. This is also influenced by the perception of vulnerability and seriousness of stunting in children. However, after being given Islamic-based education, namely about Islamic views on pregnancy and its care, there was an increase in pregnant women's perception of the benefits of treatment during pregnancy to prevent stunting in children.

The same opinion was also expressed by Anggraini and Putri (2024), namely mothers who took prenatal classes as many as 65% perceived the benefits of care during pregnancy in preventing stunting in children. Hall et al. (2018) also said that mothers who were given knowledge about the benefits of taking good care of their pregnancies were proven to have a positive perception of benefits related to stunting prevention from the first 1000 days of life. However, in the search, the researcher did not find any research that used Islamic concepts in increasing the perception of pregnant women about stunting prevention. The conclusion that can be drawn is that Islamic-based prenatal classes increase pregnant women's perception of the benefits of pregnancy care to prevent stunting in children.

The results of the difference between the two means further showed that there was a difference in perception of the benefits of stunting prevention in children who would be born in the intervention group between before and after health education through Islamic-based prenatal classes (P-value = 0.001). The perception of obstacles in stunting prevention also refers to the mother's belief about the benefits felt by the mother during pregnancy care. If pregnant women feel great benefits from taking care of the pregnancy period from an early age, then pregnant women do not feel significant obstacles in preventing stunting. Looking at the results of the above research, most pregnant women initially did not feel the benefits of stunting prevention, so they felt obstacles in carrying out treatment in the first 1000 days of birth. However, after being given Islamic-based education, namely about Islamic views on pregnancy and its care, there is an increase in the perception of pregnant women. However, after being given Islamic-based education, namely about Islamic views on pregnancy and its care, there is an increase in pregnant women's perception

of the benefits of care during pregnancy and will automatically remove obstacles to prevent stunting in children.

Anggraini and Putri (2024) in their research showed that 53% of mothers who took prenatal classes perceived that there were no obstacles in carrying out treatment during pregnancy in preventing stunting in children. Hall et al. (2018) also said that mothers who were given knowledge about the vulnerability and seriousness of stunting in children as well as the benefits of taking good care of pregnancy, were proven to have a low perception of barriers related to stunting prevention from the first 1000 days of life. However, in the search, the researcher did not find any research that used Islamic concepts in increasing the perception of pregnant women about stunting prevention. The conclusion that can be drawn is that Islamic-based prenatal classes reduce pregnant women's perception of obstacles in carrying out pregnancy care to prevent stunting in children.

Furthermore, Yikar et al. (2019) said that the participants of the pregnancy class experienced a small number of childbirth complications. In addition, these participants were more likely to give birth normally and had a lower chance of having a cesarean section. This suggests that pregnancy classes contribute to reducing both labor complications and the prevalence of cesarean sections.

2. Intervention Group with Control Group

The results of the analysis showed that in the pre-test measurement, there was no difference between the intervention group and the control group related to perception. Meanwhile, in the post-test measurement after being given Islamic-based health education to the group the analysis showed that in the pre-test measurement, there was no difference between the intervention group and the control group related to perception. Meanwhile, in the post-test measurement after being given Islamic-based health education in the intervention group, it is known that there is a difference in the perception of pregnant women about stunting prevention in children

The results of the analysis showed that in the pre-test measurement, there was no difference between the intervention group and the control group related to the perception of vulnerability (P-value = 0.573), perception of seriousness (P-value = 0.808), perception of benefit (P-value = 0.573) and perception of resistance (P-value = 1,000). Meanwhile, in the post-test measurement after being given Islamic-based health education in the intervention group, it was known that there were differences in pregnant women's perceptions of stunting prevention in children, namely the perception of vulnerability (P-value = 0.048), the perception of seriousness (P-value = 0.015), the perception of benefits (P-value = 0.048) and the perception of obstacles (P-value = 0.002).

Referring to the results of this study, it is known that pregnant women who are given education about treatment during Islamic-based pregnancy are proven to have a positive perception related to the prevention of stunting in children. Meanwhile, pregnant women who are not educated do not have a good perception of stunting prevention. These results are in line with research conducted by Samad et al. (2024), which is that from the perspective of Islamic education, these efforts are closely interrelated, as Islamic teachings emphasize the importance of proper care, the provision of halal and nutritious food, which positively affects children's physical and mental well-being. Noviansyah et al. (2022) in his research, he also said that the strategy for accelerating stunting prevention through a religious approach using appropriate methods and communication channels such as premarital counseling, recitation assemblies, and Friday sermons. The structure of messages or

communication materials about stunting prevention should be a national policy.

The limitation of this study is that the number of samples is still small due to limited funds. Furthermore, there is still a lack of literature related to Islamic-based pregnant women's intervention.

5. Conclusion

Referring to the results of this study, it can be concluded in general that Islamic-based prenatal classes are proven to be effective in increasing the perception of pregnant women in stunting prevention in Banda Aceh City.

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