

The Influence of Booklet-based Health Education on Knowledge of Prospective Brides Regarding Stunting Prevention in Tapan Nauli III Village, Central Tapanuli Regency 2024

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Abstract. The first 1,000 days of life (HPK) is a critical window for preventing stunting through adequate nutrition and health behaviors. This study aimed to examine the effect of booklet-based health education on the knowledge of prospective brides and grooms regarding stunting prevention. A pre-experimental one-group pretest–posttest design was conducted among 15 prospective brides and grooms in Tapan Nauli III Village using total sampling. Knowledge was measured using a structured questionnaire before and after the intervention. The results showed an increase in the mean knowledge score from 12.73 before the intervention to 18.47 after booklet-based health education. Paired t-test analysis indicated a significant improvement in knowledge ($p = 0.000$). These findings suggest that booklet-based health education is an effective approach to improve knowledge of stunting prevention among prospective couples and should be integrated into pre-marital health education programs.

Keywords: Prospective brides and grooms, 1000 HPK, Booklet, Stunting.

1. Introduction

Indonesia currently faces a dual nutritional challenge: undernutrition and overnutrition, both of which have yet to be fully addressed. Stunting can occur when the body's nutritional intake is insufficient to meet nutritional needs, or when recurrent or chronic infections occur during the first 1,000 days of life (HPK). Based on Basic Health Research (Riskesdas) [33] data (2018), the prevalence of pregnant women of childbearing age (WUS) aged 15–49 years with chronic energy deficiency (CED) was 17.3%, while non-pregnant women (WUS) were 14.5%. Nutritional status issues among toddlers include undernutrition and severe malnutrition (17.7%), severely wasted and wasted (10.2%), obese (8.0%), and stunted (30.8%). Stunting remains a global public health problem, affecting approximately 22% of children under five worldwide and contributing to

long-term consequences such as impaired cognitive development and reduced economic productivity. In Indonesia, stunting prevalence remains high, indicating the need for early preventive strategies.

Stunting can be prevented by paying attention to nutritional intake during the first 1,000 days of life (HPK). Critical points in the first 1000 days of life (HPK) include the prenatal period (280 days), the 0-6 month period (180 days), and the 6-24 month period (540 days). The First 1000 Days of Life (HPK), often referred to as the "window of opportunity," is the target group for specific government intervention programs to address stunting. This golden period, from the fetus to the age of two, is characterized by rapid growth, necessitating adequate nutritional intake. Adequate nutritional intake during this period can prevent stunting in children early on.

Educating prospective brides and grooms about stunting prevention can significantly reduce the risk of stunting[24]. There is a relationship between the role of staff, parenting patterns, and visits to integrated health service posts (Posyandu) and the incidence of stunting. Therefore, parents must be more involved in Posyandu activities to improve their children's nutritional status and pay attention to their parenting behaviors to ensure their nutritional needs are met to prevent stunting [4]. The selection of prospective brides and grooms as respondents was due to the important role of women in the family in maintaining family health, preparing nutritious food every day and being responsible for household sanitation, as well as creating a healthy lifestyle physically, spiritually, and socially. Especially during the 1000 HPK period, for women preparing for pregnancy, it is important for them to know about balanced nutrition from early pregnancy until the child is two years old so that the baby is born healthy and avoids various nutritional problems [14]. A woman's pre-conception nutritional status will affect the outcome of her pregnancy, so a woman's nutritional status before pregnancy needs to be considered.

Based on research by Dhirah, et al. (2020) [41], the results showed that of the 24 respondents with good knowledge about the first 1,000 days of life, 75% had toddlers with good nutritional status, and only 20.8% had toddlers with poor nutritional status. In comparison, of the 20 respondents with poor knowledge about the first 1,000 days of life, 30% had toddlers with good nutritional status and 65% had toddlers with poor nutritional status. There was a relationship between maternal knowledge about the first 1,000 days of life and toddler nutritional status.

Although several studies have examined maternal knowledge of HPK, evidence on effective pre-marital educational interventions, particularly using booklet media in rural settings, remains limited. Therefore, this study aims to assess the effect of booklet-based health education on the knowledge of prospective brides and grooms regarding stunting prevention.

2. Research Method

2.1 Research Type and Design

This study used a pre-experimental design with a one-group pretest and posttest design. This

design used a pretest before treatment and a posttest after treatment. Knowledge of the First 1,000 Days of Life was measured using a structured knowledge questionnaire consisting of 25 items. Each item assessed respondents' understanding of nutrition and stunting prevention during the first 1,000 days of life.

2.2 Time and Location

This study was conducted in Tapian Nauli III Village, Tapian Nauli District, from September to November 2024.

2.3 Population and Sample

A population is the entire research object or object being studied [20]. The population in this study was 15 couples of prospective brides and grooms aged 19 and over. The sample used in this study was total sampling, with the entire female population being a sample of 15 individuals.

2.4 Data Analysis

The bivariate analysis in this study used a dependent t-test to determine the difference between two independent data groups. The dependent t-test sample had the following criteria: If the p-value < 0.05 , H_a is accepted, meaning there is no effect of providing health education on improving the knowledge of prospective brides and grooms in Tapian Nauli III Village, Tapian Nauli District, Central Tapanuli Regency.

2.5 Intervention Description

The intervention consisted of health education using a booklet on the First 1,000 Days of Life (HPK). The booklet was designed as a concise educational medium comprising two main sections and a total of 2 pages. The content was systematically structured into four core topics: (1) the definition and importance of the first 1,000 days of life, (2) nutritional needs during pregnancy, (3) infant and young child feeding practices, and (4) stunting prevention strategies. The health education was delivered through independent learning supported by discussion, allowing respondents to read the booklet individually and clarify their understanding through discussion. Each education session lasted approximately 30 minutes.

3. Results

3.1 Respondent Characteristics

Table 1. Respondent Characteristics

RESPONDENT CHARACTERISTICS	F	%
AGE		
<25	13	86.7
>25	2	13.3
EDUCATION		
D3	2	13.3
S1	3	20.0
SMA	7	46.7
SMP	3	20.0
WORK		
LABORER	1	6.7
PNS	2	13.3
UNEMPLOYED	3	20.0
SELF-EMPLOYED	9	60.0
TOTAL	15	100

Table 1 shows that the majority of respondents (86.7%) were under 25 years old, with the highest level of education being high school graduates (46.7%), and the majority of respondents (60%) were self-employed.

3.2 Univariate Analysis

Respondents' knowledge before and after receiving health education about the First 1,000 Days of Life through booklets can be seen in the table below:

Table 2. Distribution of Respondents Based on Knowledge Before Providing Health Education about the First 1,000 Days of Life

Knowledge	F	%
Good	4	26.7
Moderate	6	40.0
Poor	5	33.3
Total	15	100.0

Based on the table above, it is known that fewer respondents, as many as 26.7%, had good knowledge before being given health education about the First 1000 Days of Life through Booklet media.

Table 3. Distribution of Respondents Based on Knowledge after Being Given Health Education on the First 1000 Days of Life

KNOWLEDGE	F	%
GOOD	9	60.0
MODERATE	6	40.0
TOTAL	15	100.0

Based on the table above, it is known that the majority of respondents, as many as 60%,

had good knowledge after being given health education about the First 1000 Days of Life through booklet media.

3.3 Bivariate Analysis

The average knowledge of respondents before and after receiving health education on the First 1,000 Days of Life through booklets is shown in the table below:

Table 4. Average Knowledge of Respondents Before and After Providing Health Education on the First 1,000 Days of Life through Booklets.

KNOWLEDGE	MEAN	STANDARD DEVIATION	T	P
BEFORE	12.73	5,23	9.430	0,000
AFTER	18,47	3.87	18.478	
N	15	15	15	

'Paired t-Test

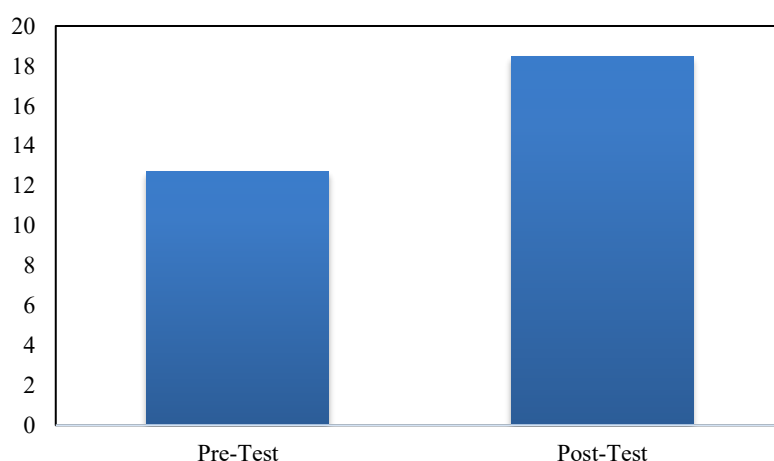


Figure 1. Comparison of Mean Knowledge Scores Before and After Health Education

The table and figure above shows a difference in the average percentage of knowledge of the 1000 HPK before and after health education ($p=0.000$). The average knowledge score before health education was 12.73, increasing to 18.47 after the 1000 HPK health education. The results of the clinical trial using a paired t-test showed a significant effect of the 1000 HPK health education on prospective brides and grooms before and after receiving health education using the 1000 HPK booklet ($p\text{-value}=0.000$).

4. Discussion

The results of this study demonstrate a substantial improvement in the knowledge of prospective brides and grooms after receiving health education on the First 1,000 Days of Life (HPK) through booklet media. The proportion of respondents with good knowledge increased from 26.7% before the intervention to 60% after the intervention, indicating a meaningful

knowledge gain. This improvement is consistent with the theory proposed by Notoatmodjo (2010)[20], which emphasizes that health education using visual media enhances information retention and comprehension by stimulating both cognitive and sensory learning processes. Booklets, as visual and textual media, allow individuals to revisit information repeatedly, thereby strengthening memory and understanding.

The findings of this study are in line with previous research conducted by Simanjuntak and Anang (2021)[39], who reported a significant increase in knowledge of the First 1,000 Days of Life among prospective brides and grooms following health education interventions. Similarly, Nurlaela et al. (2018)[23] found that structured educational media effectively improved preconception knowledge related to nutrition and child health. The similarity of these findings may be attributed to the use of simple, structured, and easy-to-understand educational materials that are tailored to the target population. However, differences in the magnitude of knowledge improvement across studies may be influenced by variations in sample size, educational background, duration of intervention, and delivery methods.

Several factors may have influenced the effectiveness of the booklet-based intervention in this study. The dominance of respondents with a high school education (46.7%) may have affected baseline knowledge levels, as individuals with higher educational attainment generally have better cognitive readiness to absorb health information. In addition, access to internet and digital information sources may have supported respondents in reinforcing the knowledge obtained from the booklet, even though the primary intervention relied on printed media. Occupational status may also play a role, as self-employed respondents may have greater flexibility in allocating time to read and understand the educational materials.

Despite the positive findings, this study has several limitations that should be considered. The use of a one-group pretest–posttest design without a control group makes the study vulnerable to potential biases, such as testing effects and history bias. Respondents may have shown improved posttest scores partly due to familiarity with the questionnaire rather than solely as a result of the intervention. Additionally, the small sample size limits the generalizability of the findings. Future studies are recommended to use a quasi-experimental or randomized controlled design with larger samples to strengthen causal inference and provide more robust evidence on the effectiveness of booklet-based health education for stunting prevention.

5. Conclusion

The majority of respondents in this study were under 25 years old (86.7%), with most having a high school education (46.7%) and working as self-employed individuals (60%). The findings showed a substantial improvement in the knowledge of prospective brides and grooms regarding the First 1,000 Days of Life, with the proportion of respondents with good knowledge increasing from 26.7% before the intervention to 60% after receiving health education. Statistical analysis confirmed that booklet-based health education had a significant effect on knowledge improvement, as indicated by an increase in the mean score from 12.73 to 18.47 and a p-value of 0.000. These results suggest that providing health education on the First 1,000 Days of Life

prior to marriage is an effective strategy for strengthening stunting prevention efforts through early nutritional preparedness.

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