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The effectiveness of health education through marga partamiangan in preventing stunting in the 1000 HPK period

Efektivitas pendidikan kesehatan melalui partamiangan marga dalam pencegahan stunting 1000 HPK

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ABSTRACT

***Background**: In Indonesia, stunting is still a major public health concern, especially during the First 1000 Days of Life (HPK). Prevention efforts require a contextual and culturally based educational approach. One potential forum is Partamiangan Marga, a regular family gathering that can serve as a medium for health education.*
***Objective:** This study aims to evaluate the effectiveness of health education through Partamiangan Marga in improving community knowledge and attitudes towards stunting prevention during the 1000 HPK period.*
***Method:** This research employed a pre-experimental design with a one-group pre-test and post-test methodology. The research consisted of 35 members of Partamiangan Marga who engaged in health counseling. The research tool utilized was a standardized questionnaire designed to assess knowledge and attitudes prior to and during the intervention. Data were evaluated utilizing a paired t-test with a significance 0.05.*
***Results:** The average knowledge score increased from 46.29±12.208 to 85.29±5.934, while attitudes increased from 45.20±12.283 to 83.74±3.592. The results of the statistical tests showed a significant difference between the pre-test and post-test, with a p-value of 0.001.*
***Conclusion:** Health education through Partamiangan Marga has been proven effective in improving community knowledge and attitudes towards preventing stunting during the 1000 HPK.*

Keywords: 1000 HPK, Children, Health Education, Knowledge, Stunting

ABSTRAK

Latar Belakang: Di Indonesia, stunting masih menjadi masalah kesehatan masyarakat yang utama, terutama pada 1000 Hari Pertama Kehidupan (HPK). Upaya pencegahan memerlukan pendekatan edukatif yang kontekstual dan berbasis budaya lokal. Salah satu forum potensial adalah *Partamiangan Marga*, sebuah pertemuan kekeluargaan rutin yang dapat dimanfaatkan sebagai media pendidikan kesehatan.
Tujuan: Penelitian ini bertujuan untuk mengevaluasi efektivitas pendidikan kesehatan melalui *Partamiangan Marga* dalam meningkatkan pengetahuan dan sikap masyarakat terhadap pencegahan stunting pada 1000 HPK.
Metode: Penelitian menggunakan desain pra-eksperimen pada satu kelompok *(pre-test* and *post-test).* Partisipan adalah 35 anggota Partamiangan Marga yang mengikuti konseling kesehatan. Kuesioner terstandar dirancang untuk menilai pengetahuan dan sikap sebelum dan selama intervensi. Data dievaluasi menggunakan uji-t berpasangan dengan signifikansi 0,05.
Hasil: Rata-rata skor pengetahuan meningkat dari 46,29±12,208 menjadi 85,29±5,934, sedangkan sikap meningkat dari 45,20±12,283 menjadi 83,74±3,592. Hasil uji statistik menunjukkan perbedaan signifikan antara *pre-test* dan *post-test* dengan nilai p=0,001.
Kesimpulan: Pendidikan kesehatan melalui *Partamiangan Marga* terbukti efektif dalam meningkatkan pengetahuan dan sikap masyarakat terhadap pencegahan stunting 1000 HPK.

Kata kunci: 1000 HPK, Anak, Pengetahuan, Pendidikan Kesehatan, Stunting

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INTRODUCTION

Stunting poses a significant obstacle to human resource development in Indonesia. Stunting, or inadequate growth in infants resulting from chronic malnutrition, continues to be a critical public health concern, especially during the First 1,000 Days of Life (HPK) [1]. The initial 1,000 days of life—from gestation to two years of age—constitute a pivotal phase that profoundly influences the quality of a child's physical and cognitive growth and development [2]. Children who experience stunting are not only short but also at risk of stunted brain development, low academic achievement, and low productivity in adulthood [3].

Stunting prevention initiatives have been included into a national agenda, encompassing several cross-sectoral programs, including community-based strategies. The Indonesian Government aims to decrease stunting prevalence to 14% by 2024 to fulfill the Sustainable Development Goals (SDGs), particularly Goal 2: eradicating hunger and all kinds of malnutrition [4]. Consequently, suitable, contextual, and sustainable measures are essential to enhance public comprehension of the significance of nutrition and healthcare from pregnancy to the age of two.

One approach that can increase the effectiveness of health education is through the utilization of existing socio-cultural forums within the community [5]. In North Tapanuli Regency, the clan family forum, known as Partamiangan Marga, is a social gathering regularly held by clan groups, such as the Siregar clan [6]. This forum serves as a gathering place for family members across generations, including pregnant women, parents of toddlers, and the elderly. Through this approach, health education targets not only individuals but also the community as a whole, which plays a significant role in childcare [7]

Community-based health education plays a vital role in enhancing community knowledge and improving attitudes toward health issues [8]. Previous research has shown that health education can improve mothers' Knowledge about nutrition and healthy eating patterns during the first 1000 days of life, which plays a crucial role in preventing stunting [9]. In addition, positive attitudes towards prevention efforts also increased significantly after being provided with education tailored to the needs and characteristics of the target [10]. This demonstrates the importance of designing interventions that are communicative, participatory, and culturally relevant.

Several factors, including education level, access to health information, and limited involvement in promotive and preventive activities, generally influence low public Knowledge about stunting [11] Lasting health behaviors are more likely to develop if they are based on sound Knowledge [12]. Therefore, an educational approach within a culturally accepted social forum, such as Partamiangan Marga, has the potential to be an effective

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strategy for conveying health messages holistically.

Given the complexity of stunting causes and the importance of community involvement, community-based health interventions are highly relevant [13]. The Partamiangan Marga Forum not only strengthens family ties but can also be optimized as an effective health promotion tool. By involving people across various age groups and family roles, health messages can be received and disseminated more effectively within the community's social networks [14].

This study is to assess the effectiveness of health education through the Partamiangan Marga forum in improving community knowledge and attitudes toward stunting prevention during the 1000 HPK period. The results of this study can contribute to community-based intervention models that align with local wisdom and inform stunting prevention programs at the regional and national levels.

RESEARCH METHODS

This study used a quantitative approach with a pre-experimental design, a one-group pre-test and post-test design, involving only one group without a control group. In this design, an initial measurement (pre-test) was conducted before the intervention was administered, followed by a re-measurement (post-test) after the intervention was administered. The purpose of this design was to evaluate the effectiveness of health education interventions in improving community knowledge and attitudes toward stunting prevention and management during the First 1,000 Days of Life (HPK).

This research was conducted in North Tapanuli Regency, specifically during a routine socio-cultural event called Partamiangan Marga, a form of family gathering of the Siregar clan. This activity is held monthly and serves as a forum for health education. This location was chosen based on the consideration that Partamiangan Marga activities are an effective social forum for conveying health information because they are attended by adults who play an active role in childcare.

The subjects of this study were all members of the family unit present during the intervention. The total number of respondents was 35, comprising individuals from various age groups and family roles, including pregnant women, parents of toddlers, the elderly, and local health workers. The sampling technique used was total sampling, as the entire population present and meeting the inclusion criteria were included in the study. This study was inclusive, with no age or social role restrictions, as all participants contributed to the care and prevention of stunting, both directly and indirectly.

The instrument used in this study was a structured questionnaire designed to measure two main variables: community knowledge and attitudes toward stunting prevention during the first thousand days of life (1000 HPK). The questionnaire consisted of several multiple-choice questions to measure

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knowledge levels and Likert-type statements to assess respondents' attitudes. This instrument underwent content validation by experts in midwifery and public health and was pre-tested to ensure reliability and understanding by respondents with diverse educational backgrounds. The validity and reliability tests showed that the questionnaire was valid and reliable, with a Cronbach's alpha value of 0.864 for the knowledge section and 0.880 for the attitude section, indicating high internal consistency. Scoring for the knowledge section was classified into three categories: good, sufficient, and poor. Meanwhile, attitudes were also categorized into three levels: positive (good), sufficient, and negative (poor).

The research implementation procedure began with initial coordination and communication with community leaders and local health workers. After the permit process and scheduling were completed, the activity began with the distribution of a pre-test questionnaire to all participants. Following this, a health education session was conducted on the theme "Strategies for Preventing Stunting in the 1000 HPK in the Social Environment." The material was delivered using a communicative and participatory approach, tailored to the participants' backgrounds. Methods employed included lectures, Q&A sessions, group discussions, and the use of educational media, such as posters and images. Following the education session, participants were asked to complete the same post-test questionnaire to assess changes in Knowledge and attitudes following the intervention.

The data from the pre-test and post-test results were subsequently coded and analyzed using statistical software. Analysis was conducted utilizing univariate and bivariate methodologies. Univariate analysis was employed to ascertain the frequency distribution of community knowledge and attitude categories prior to and following the intervention. A paired t-test was performed at a significance level (α) of 0.05 to see if a significant difference existed between the pre-test and post-test scores. This test was employed due to the data being represented as numerical scores and originating from the same cohort (paired samples). This investigation reveals the efficacy of counseling in enhancing community knowledge and attitudes around stunting. This study also adhered to research ethics by first providing participants with an explanation of the purpose, benefits, procedures, and their rights, as well as data confidentiality. All participants agreed to participate voluntarily and provided verbal informed consent.

RESLUT AND DISCUSSION

This research was conducted in Punguan Marga, entitled "Strength prevention strategies for 1000 HPK in the social environment (partamiangan marga). The gathering is held every third week of each month, on a routine basis. The activities carried out include counseling on stunting

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prevention strategies for 1,000 HPK in the social environment (Partamiangan Marga). The number of participants who attended this activity was 35 people, plus some brought their children or grandchildren. So the atmosphere was lively. At the meeting, many also asked questions about stunting in children. Some of the participants were parents, and they were also enthusiastic about asking questions and participating in the various activities.

Table 1. Frequency Distribution of Categories of Public Knowledge and Attitudes (n=35)

Variables	Pre-Test		Post Test	
	n	%	n	%
Knowledge				
Good	2	5.7	34	97.1
Enough	4	11.4	1	2.9
Not enough	29	82.9	0	0
Attitude				
Good	1	2.9	32	91.4
Enough	6	17.1	3	8.6
Not enough	28	80	0	0
Amount	35	100	35	100

Based on the Table above, it can be seen that before providing counseling to the community (*pre-test*), 82.9% had poor Knowledge, and 80% had a good attitude. After the intervention (post-test), 97.1% demonstrated good Knowledge, and 91.4% showed a good attitude

Table 2. Distribution of average Knowledge and attitudes of the community (n=35)

Variables	Mean ± SD	Average Change ± SD	p-value between groups
Knowledge			
Before	46.29 ± 12.208	-39.00 ± 6.274	0.001
After	85.29 ± 5.934		
Attitude			
Before	45.20 ± 12.283	-38.54 ± 8.691	0.001
After	83.74 ± 3.592		

Source: processed data (2024)
*difference within groups (before and after) using paired t-test, at a significance level of 5%

The results of the analysis of the average distribution of community knowledge and attitudes in the table above show significant changes in both variables between before and after the intervention. For knowledge, the mean value before the intervention was 46.29 with a standard deviation (SD) of 12.208. After the intervention, the mean increased to 85.29 with a smaller SD, namely 5.934. This change resulted in a mean change of -39.00 ± 6.274, with a p-value of 0.001. A p-value smaller than 0.05 indicates that there is a significant difference between the knowledge scores before and after the intervention. Meanwhile, for attitude, the mean before the intervention was 45.20 with an SD of 12.283, and after the intervention it increased to 83.74 with a smaller SD of 3.592. The change in the mean value of attitudes was -38.54 ± 8.691, with a p-value of 0.001. These results indicate that changes in community attitudes were also significant after the intervention. Overall, this analysis shows that the intervention program carried out successfully had a significant impact on increasing community knowledge and attitudes, as evidenced by the very small p-value, which indicates that the changes that occurred were not accidental.

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DISCUSSION

The results showed that before the intervention was carried out, community knowledge was 46.29 with a standard deviation of 12.208, and attitude was 45.20 with a standard deviation of 5.934. After receiving health counseling, the average Knowledge increased to 85.29, with a standard deviation of 5.934, and the attitude improved to 83.74, with a standard deviation of 3.592. The increase in the average value of Knowledge was 39, and the attitude was 38.54 in the good category. The statistical analysis, employing a paired t-test, revealed a substantial disparity in the average knowledge and attitudes on stunting prevention and management across 1000 HPK participants, with a p-value of 0.001.

The incidence of stunting in toddlers, commonly referred to as short stature, is a significant obstacle to global human development. Stunting is one of the indicators of Sustainable Development Goals (SDGs) Goal 2, "Eradicate hunger, achieve food security and improved nutrition, and promote sustainable agriculture," which must be addressed by the Government. The objective for 2025 is to diminish the incidence of stunting and wasting in toddlers, with the aim of eradicating all kinds of malnutrition by 2030. Stunting is a disorder characterized by inadequate growth in toddlers due to prolonged malnutrition, leading to a height that is insufficient for their age or an underdeveloped brain. Chronic malnutrition begins in utero and persists into the early years postnatally, however stunting only becomes evident once the kid reaches two years of age [15]. Meanwhile, according to the World Health Organization (WHO) [1], Stunting is chronic malnutrition based on a length-for-age (L/A) or height-for-age (H/A) index with a z-score of less than -2 SD. Stunting is a major threat to the quality of Indonesian human resources and the nation's competitiveness [16]. This is because children who experience stunting not only experience impaired physical growth (short stature/dwarfism) but also impaired brain development, which will significantly affect their abilities and achievements in school, as well as productivity and creativity during their productive years. Ultimately, stunting can hinder economic growth, exacerbate poverty, and exacerbate inequality [17].

This result is supported by research [9]. The results of the knowledge test, administered after education in the control group and the treatment group, showed a difference in the average (mean) post-test score in the control group, 79.00 ± SD 6.601. While in the treatment group, 83.67 ± SD 11.095, with a difference in the average Knowledge of 4.67. This indicates a difference in the average knowledge level after providing education in the control group using conventional methods and the treatment group using conventional methods and Poster Picture Media. Measuring the Knowledge of pregnant women before providing 1000 HPK Diet Education in the Rambah Health Center Working Area of Rokan Hulu Regency aims to

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determine the depth of basic understanding of pregnant women in preventing stunting by regulating consumption patterns in the First 1000 Days of Life (HPK). 1000 HPK starts from when the baby is in the womb for 280 days, the Exclusive breastfeeding period (0-6 months), and the period of breast milk and complementary foods for 540 days, also known as the Baduta period. Knowledge measurement was conducted on both groups to determine the average knowledge level prior to the education being provided. The difference in the average between the two groups could be due to educational background where the highest education level of the control group was junior high school, while the treatment group had the same number of elementary and high school education levels. According to [18], Knowledge is closely related to a person's education because education broadens a person's Knowledge. According to [9], Education level influences a person's ability and Knowledge to adopt healthy lifestyle behaviors. The higher a person's education, the more readily they receive information. Information about maternal health, particularly regarding stunting and nutritional patterns during pregnancy, is also influenced by access to available information. The distance between the residence and the health services that provide information must be considered.

Results .Achjar et al (2023) This pre-experimental study involving 88 mothers of toddlers in Banjar Anyar Village, Kediri District, used a one-group pre- and post-test design to evaluate the impact of health education delivered via leaflet media on mothers' knowledge of toddler-rearing practices for stunting prevention. Prior to the intervention, 87.5% of respondents demonstrated "good" knowledge and 12.5% "sufficient" knowledge; after the leaflet-based education, the proportion with "good" knowledge increased to 96.6% while "sufficient" dropped to 3.4%, with no respondents in the "poor" category. The Wilcoxon test showed a p-value of 0.000 (less than 0.05), indicating that the leaflet-based health education had a statistically significant effect on improving mothers' knowledge about parenting toddlers in stunting prevention [19].

Research completed by Herawati in 2025 indicates that health education influences knowledge levels. Knowledge functions as a framework in influencing an individual's actions (observable behavior) [20],. Experience indicates that behavior informed by knowledge is more enduring than behavior lacking such understanding [21] Multiple factors affect the attainment of this level of knowledge, including education, economy, and information accessibility. Isanaka's research identified an association among mother education, family income, maternal nutritional knowledge, and the prevalence of stunting in toddlers across both rural and urban settings [22]. Based on the study's results,

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it is evident that there are similarities between theory and facts, specifically that low education has an impact on low Knowledge, including stunting prevention. At the same time, those with higher education also have extensive Knowledge about stunting prevention. A lack of information also dramatically affects the level of mothers' Knowledge about stunting prevention, and income affects the mothers' ability to obtain information.

Research conducted Suryagustina [23] indicates that statistical analyses employing the Wilcoxon test demonstrated an impact of health education on mother attitudes concerning stunting prevention. The pre-test and post-test values of respondents produced a significance value of $p < 0.05$, signifying the acceptance of hypothesis H2, which indicates a difference in views before to and following health education intervention. The results of the study conducted on 25 respondents consisting of mothers who have children aged 0-24 months, there were 20 respondents (80%) who had good attitudes, five respondents (20%) had excellent attitudes and after being given health education to 25 respondents consisting of mothers who have children aged 0-24 months there were 25 respondents (100%) had excellent attitudes, and no respondents had good, sufficient and less attitudes—according to the results of research conducted by Suryagustina et al (2018) stated that after being given health education, the majority of respondents had a positive attitude (87%) [23]. An attitude is an evaluative assertion regarding an object, individual, or occurrence. Attitude is a cultivated inclination to react favorably or unfavorably to an item, circumstance, concept, or someone [24].

CONCLUSION AND SUGGESTIONS

Based on the study conducted on the effectiveness of health education through Partamiangan Marga in preventing stunting during the 1000 HPK period, it can be concluded that the intervention significantly improved both knowledge and attitudes of the community. The data showed a remarkable increase in knowledge from 5.7% to 97.1% and a positive shift in attitudes from 2.9% to 91.4%. These findings suggest that community-based health education, when integrated into local cultural practices like Partamiangan Marga, can be an effective strategy for addressing public health issues such as stunting. The use of familiar social platforms not only enhances the dissemination of health information but also fosters a supportive environment for long-term behavioral change. Therefore, this model offers valuable insights for implementing health education interventions that align with local customs, which could be scaled to other regions to combat stunting on a broader level.

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