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The Impact of TikTok-Based Nutrition Education on Pregnant Women's Knowledge Level About the First Thousand Days of Life for Stunting Prevention

Hendri Devita[1] *, Rifka Yuliana Rizal[2], Nirmala Sari[3], Putri Engla Pasalina[4]

[1,2]Midwifery Study Program, Vocational Faculty, Baiturrahmah University, Indonesia

[3]Midwifery Study Program, Faculty of Health Science, Baiturrahmah University, Indonesia

** Corresponding Author: Hendri Devita, Baiturrahmah University;*

hendridevita@gmail.com

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Abstract

Stunting is a chronic nutritional problem characterized by a child's height below the standard for their age, impacting physical and cognitive development and future productivity. The WHO (2020) indicated that 149.2 million toddlers worldwide experienced stunting. In Indonesia, the prevalence was 24.4% (2021). Based on the Indonesian Nutritional Status Survey (2022), the prevalence of stunting in West Sumatra reached 25.2%, and in Padang City, 3.7%, with the highest rate at Dadok Tunggul Hitam Community Health Center at 13.83%. One contributing factor is the low knowledge of pregnant women about nutrition during the First 1,000 Days of Life (HPK). This study used a pre-experimental design with a one-group pretest-posttest approach. The sample consisted of 37 pregnant women selected through a purposive sampling technique at Dadok Tunggul Hitam Community Health Center, Padang City. Data were collected using questionnaires before and after the intervention in the form of a TikTok-based educational video, then analyzed using the Wilcoxon Signed Rank Test. The Wilcoxon test showed a p-value of 0.000 ($p < 0.05$), indicating a significant effect of TikTok-based education on improving pregnant women's knowledge. In conclusion, TikTok is effective as an innovative and easily accessible health education tool for pregnant women. It is recommended that health workers utilize social media as an alternative educational tool for stunting prevention.

Keywords: nutrition education, TikTok, pregnant women's knowledge, stunting

Introduction

Stunting is a condition in which toddlers experience growth failure or whose height is not appropriate for their age, caused by chronic malnutrition in the first thousand days of life (HPK), starting from in the womb until the child is two years old. This condition makes children more susceptible to disease and can reduce their productivity in the future (1). WHO (2020) reported that around 149.2 million toddlers worldwide experience stunting, with the highest prevalence in Asia and Africa (2). In Indonesia, the prevalence of stunting in 2021 reached 24.4%, which is still above the WHO tolerance threshold of <20% (3). Based on the 2022 Indonesian Nutritional Status Survey, the prevalence of stunting in West Sumatra was 25.2%, while in Padang City it was 3.7%, with the highest rate at 13.83% in the Dadok Tunggul Hitam Community Health Center (4,5).

Stunting is closely related to inadequate nutritional intake from pregnancy to the age of two, known as the First 1000 Days of Life. This period is a golden period for child growth and development, so appropriate nutritional interventions can prevent long-term impacts such as impaired physical and cognitive growth, as well as decreased productivity (6). Pregnant women's knowledge of nutrition during the First 1000 Days of Life is crucial, yet many mothers still lack this understanding (7).

Nutrition education efforts need to be carried out using innovative, engaging, and easily accessible methods. The use of social media, particularly TikTok, is considered effective due to its audiovisual nature, popularity, and ability to convey health messages more interactively. (8) Previous research has shown that education through TikTok videos has a positive effect on improving nutritional knowledge in adolescent girls and pregnant women. (9)(10)

Based on the results of an initial survey conducted on January 30, 2024, involving direct interviews with 10 pregnant women at the Dadok Tunggul Hitam Community Health Center, the authors found that 9 (90%) of the 10 pregnant women did not understand nutrition during the first 1000 days of life for stunting prevention. Several mothers also stated that they had never received health education using audiovisual media. They found audiovisual health education to be very appealing, as lecture-based health education generally leads to boredom and monotony. Another initial survey result revealed that all pregnant women interviewed had access to TikTok

and actively accessed it daily.

The purpose of this study was to analyze the effect of TikTok-based nutrition education on the level of knowledge of pregnant women about the first 1000 days of life for stunting prevention at the Dadok Tunggul Hitam Community Health Center.

Method

Method should be structured as follows:

1. *Research design*

The type of research is Pre-experimental with a one-group pretest-posttest design. The dependent variable of this study is the level of knowledge of pregnant women, and the independent variable is TikTok-based education

2. *Setting and samples*

The population in this study is primipara pregnant women at the Dadok Tunggul Hitam Health Center who actively access TikTok social media, as many as 37 respondents. The sampling technique used in this study is purposive sampling. This study uses an instrument in the form of a questionnaire.

3. *Intervention (applicable to experimental studies*)

In this study, pregnant women at the Dadok Tunggul Hitam Health Center as subjects were given one pre-test measurement to find out the level of knowledge about nutrition for 1000 HPK, before treatment, after being given treatment, pregnant women were given follow-up measurements in the form of a final test (post-test) to measure the level of knowledge after being educated.

4. *Data measurement and collection*

Measuring pregnant women's knowledge about nutrition 1000 HPK before being given a TikTok educational video, by providing a questionnaire filled out by the respondents themselves. After giving the pretest, educate yourself with the video that has been posted on @rfkyln's TikTok account. The video link was shared via WhatsApp to be rewatched, then given a posttest after 7 days of education.

5. *Data analysis;*

Data were analyzed by a *paired sample t-test.*

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Results

Table 1

Frequency Distribution of Pregnant Women's Knowledge Level Before Education

Tingkat Pengetahuan	*F*	*%*
Tinggi (≥80 - 100)	**4**	**10.8**
Sedang (60 - 70)	**19**	**51.4**
Rendah (<60)	**14**	**37.8**
Total	**37**	**100.0**

Table 1 shows that less than half of the respondents (37.8%) had a low level of knowledge, and more than half of the respondents (51.4%) had a moderate level of knowledge before being given education.

Table 2

Frequency Distribution of Pregnant Women's Knowledge Level After Education

Tingkat Pengetahuan	*F*	*%*
Tinggi (≥80 - 100)	**29**	**78.4**
Sedang (60 - 70)	**8**	**21.6**
Rendah (<60)	**0**	**0**
Total	**37**	**100.0**

Table 1 shows that the majority of respondents (78.4%) had a high level of knowledge, and a small proportion of respondents (21.6%) had a moderate level of knowledge before being given education.

Table 3

The Effect of TikTok-Based Nutrition Education About the First Thousand Days of Life on Pregnant Women's Knowledge Level

Knowledge Level	N	Mean Rank	Sum of Rank	P-Value
Pretest post-test	37	19,00	703,00	0,000

Table 3 The results of the Wilcoxon Signed Rank Test show that the value of p = 0.000 ($p < 0.05$), which means that there is a significant influence of TikTok-based nutrition education on improving the knowledge of pregnant women. The mean rank

value of 19.00 and the sum of ranks of 703.00 showed that all respondents experienced an increase in knowledge after being educated.

Discussion

This study shows that providing education using TikTok has a significant impact on improving the knowledge of pregnant women. Before the education, most respondents had moderate or low levels of knowledge. However, after the educational intervention, most respondents' knowledge improved to a high level.

This finding aligns with research by Artikasari et al. (2022), which concluded that education through TikTok videos significantly improved pregnant women's knowledge and attitudes about nutrition during pregnancy. TikTok is considered effective because it is audio-visual, short but informative, and easily accessible to users, especially those of childbearing age and accustomed to using social media (11).

Furthermore, Rahayu (2023) also demonstrated in her research that TikTok educational media had a positive effect on improving pregnant women's knowledge about exclusive breastfeeding in the Kereng Pangi Community Health Center work area. This supports the findings of this study, which demonstrate that TikTok can be an effective alternative educational medium for improving the knowledge of specific target groups, including pregnant women (12). From a theoretical perspective, which states that a person's knowledge can increase if they receive information delivered through engaging media that aligns with the needs and characteristics of the target audience. In this context, the use of TikTok successfully captured the attention of pregnant women, facilitating the delivery of nutritional information in a fun and non-monotonous manner (11).

Limitation

The weakness of this study is that it only assesses the level of knowledge,

without assessing changes in attitudes or behaviors of pregnant women after education, even though behavioral changes are important indicators in the success of nutritional interventions.

Conclusion

Providing TikTok-based education significantly increased the level of knowledge of pregnant women about the importance of nutrition during the First 1,000 Days of Life. This type of education can be recommended as a promotive and preventive strategy in stunting prevention programs in primary healthcare facilities such as community health centers.

Ethical Considerations

Please describe the ethical issues in the study, including how informed consent was obtained from respondents/participants. Provide a statement of approval from the health research ethics committee, including its reference number.

Acknowledgment

Recognize those who helped in the research, especially the funding supporters of your research. Include individuals who have assisted you in your study: Advisors, Financial supporters, or any other supporter, i.e., Proofreaders, Typists, and Suppliers who may have given materials.

Conflict of Interest

This research has no conflict of interest with any institution.

Author contribution

All authors contributed according to their respective roles. The first and second authors were responsible for conceptualizing the idea, collecting data, and writing the initial draft of the article. The third author contributed to data analysis and interpretation and made substantial revisions to the manuscript. The fourth author assisted with the literature review, data validation, and final editing. All authors have read, approved, and

are accountable for the research.

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