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Research Article

Changes in Knowledge About Mothers Stunting Before and After Watching the Video on Mothers of Stunting Toddlers in Puskesmas Anak Air Kota Padang

Yaumil Fauziah[1], Fitri Khairani[*2], Annisa Namirah Nasution[1]
[1]*Undergraduate Program in Midwifery and Midwife Profession, Flora Health Sciences College, Medan, 20128, Indonesia*
[2]*Department of Public Health Sciences, Universitas Sumatera Utara, Medan, 20128, Indonesia*
[*]Corresponding Author: fitri.khairani1991@usu.ac.id

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ABSTRACT

Background: Stunting is a developmental disorder in children caused by chronic malnutrition and recurrent infections. One effective way to convey information about nutrition to mothers of stunted toddlers is by watching videos. **Objective:** This study aimed to determine the changes in knowledge of mothers of stunted toddlers before and after watching intervention videos. **Methods:** A "One-group pretest and posttest" design was used in this study, conducted at the Anak Air Health Center in Padang City, from October 25, 2023, to January 15, 2024. A sample of 27 participants was selected using the Simple Random Sampling technique through the Random Number Application. Normality tests and bivariate analysis were performed using the Kolmogorov-Smirnov and Paired t-test ($p < 0.05$). **Results:** Statistical analysis using the paired t-test showed a significant change in knowledge scores before and after the video intervention, with a p-value of 0.001 ($p < 0.05$). This indicates that video media has a significant effect on the knowledge of mothers of stunted toddlers. **Conclusion:** The study concluded that there was an increase in knowledge among mothers of stunted toddlers before and after being exposed to video media intervention.

Keywords: knowledge, mothers, stunting, toddler, video

1. Introduction

UNICEF (United Nations International Children's Emergency Fund) estimated the number of children under the age of five who experienced stunting to be as many as 149.2 million in 2020. Nevertheless, progress in handling stunting throughout the region is not uniform [1]. The number of toddlers suffering from stunting continued to increase in West and Central Africa, reaching 29.3 million in 2020, while East and Southern Africa saw a similar increase, with 28 million toddlers suffering from stunting [1, 2]. On the other hand, the biggest decline occurred in East Asia and the Pacific, with 2.5 million children under five suffering from stunting in Eastern Europe and Central Asia in 2020. In Latin America and the Caribbean, the number of children under five who suffer from stunting remains high [1].

When providing education about stunting to pregnant women, experience shows that the response varies. There are also pregnant women who are very responsive and understand the information provided, while others may not have an understanding of stunting. There are also cases where some pregnant women are reluctant to receive information, perhaps because they have a lot of work or want to go home quickly. However, education about stunting is very important, and to ensure the message is conveyed well, the use of interesting media, such as educational videos about stunting prevention for pregnant women, is important for prevention in pregnant women.

Health education using video media is often utilized because it is considered effective in conveying messages to the community compared to health education without media or with other conventional media such as lectures and discussions. This is in line with the "Edgar Dale (1946) Cone of Learning Experience," which states that learning experiences obtained through watching videos and demonstrations can be absorbed into memory by up to 50%. According to Simons-Morton et al. (1995), 75% of human knowledge is acquired through the sense of sight; therefore, if these senses are used optimally, it can enhance the ease with which humans receive information. Audiovisual media have several advantages, including the ability to attract attention, provide a more realistic depiction, increase memory retention, and be easy to recall (Dale, 1946). The advantages of video media include the attractive packaging of messages, making them easier for the audience to remember, and not being limited by distance or time. The format can be presented in various forms such as cassettes, CDs, and DVDs, and it is capable of stimulating both hearing and visual senses to enhance learning outcomes.

Educational video media is an effective tool for increasing individual self-efficacy. Self-efficacy refers to an individual's belief in their ability to succeed in achieving goals and overcoming challenges. By using educational video media, individuals can gain new knowledge, skills, and insights needed to develop their self-confidence. Evidence shows that educational video media can increase self-efficacy by a magnitude of 80%. A study conducted on a group of students found that when they used educational video media as a learning tool, they experienced a significant increase in their self-confidence related to the topics being studied. They felt more confident in facing tasks related to the learning material. With a strength of 78% and a generality of 85%, it can be concluded that educational video media is a powerful and effective tool for increasing individual self-efficacy in general. However, its effectiveness can also vary depending on the content, design, and needs of the individual using the media [2]. The same study was also conducted by Aprilia, there was a significant difference between the level of knowledge of pregnant women before and after being given nutrition education on animated video media on the topic of preventing anemia. From the average pretest and posttest results, there was an increase in the average score of 11 points from the average pretest result of 63.33 to 74.64 on the average posttest result. Meanwhile, the minimum pretest score was 20 and the posttest was 50, the maximum pretest score was 80 and the posttest was 90. There was an increase in knowledge in pregnant women before and after being given animated video media on nutrition education and preventing anemia. Because pregnant women are relevant to the current situation when mothers are bored with their daily routines, what most do is watch videos on various digital platforms. This is also due to the presentation of material through media that is packaged in an attractive way with animation and music that supports the presentation of the material so that pregnant women do not get bored watching the video. Video media is an educational media that is well received by respondents because animated video media displays a more attractive and less formal appearance compared to print media that only contains writing [3].

Video is a very good medium for conveying information in the affective dimension. Can use effects and techniques, video can be a very good medium in influencing attitudes and emotions. Can develop cognitive partners concerning the ability to recognize again and the ability to provide movement and harmony stimulation. Through video can be used to show examples and how to behave or act in a performance, especially concerning individual interaction. For psychomotor purposes video is the right medium to show examples of skills involving movement. Through video individuals immediately get visual feedback on their abilities so that they are able to try the skills involving the movement.

Table 1. Differences in average values before and after knowledge of stunting mothers of toddlers about stunting using video media in Puskesmas Anak Air Kota Padang

Variable	Average value (mean) Before Intervention	Average value (mean) after intervention	*p-value*
Knowledge Score	13.15	17.41	0,001

The average value of respondents' knowledge about stunting before the intervention using video media was 13.15, after being given the intervention using video media, the mean value was 17.41. The difference in the mean (average) value before and after the intervention shows an increase in the mean knowledge before and after being given the intervention with video media. The difference in these values was tested using paired t-test analysis with a p-value/sig (2-tailed) of 0.001.

Based on the results of statistical analysis using Paired t-test on the average value of knowledge before and after being given treatment with video media, the results show p-value/sig (2-tailed) = 0.001 < α = 0.05,

there is a significant change, meaning there is an influence video media on the knowledge of mothers of stunting toddlers in Puskesmas Anak Air Kota Padang

Figure 1. Video media counselling in Puskesmas Anak Air, Kota Padang

2. Methods

In this study, the researcher used the "pretest-posttest control group design" design. By using this design, the experimental and control groups have the same characteristics because they are taken randomly. A sample is a part of a population that represents the population as a whole. The sample of this study was mothers who had stunted toddlers in the work area of the Anak Air Health Center in Padang City, who were selected by researchers using simple random sampling [4]. The formula used is:

$$n = 2\left\lfloor \frac{(Z\propto + Z\beta)s}{X1 - X2} \right\rfloor^2$$

Description:

$Z\alpha$ = Type I error, α 5 % [1.96]

$Z\beta$ = Type II error, β 10 % [1.28]

X1 − X2 = Desired difference = 36.22-30.19

S = Standard deviation of both groups = 2.63

To obtain the value of X1 - X2, the researcher used the results of previous research (Nidia & Hayati, 2022) so that the following sample was obtained

$$n = 2\left\lfloor \frac{(1{,}96 + 1{,}28)2{,}63}{36{,}22 - 30{,}19} \right\rfloor^2$$

$$n = 2\left\lfloor \frac{(3{,}24)2{,}63}{6{,}03} \right\rfloor^2$$

$$n = 2\left\lfloor \frac{72{,}6108}{6{,}03} \right\rfloor$$

$$n = 2\,\lfloor 12{,}04 \rfloor$$

$$n = 24{,}08$$

$$n = 24{,}08 + 10\,\%\ \text{drop out}$$

This calculation resulting 26.48 = 27 people, the total sample for the two groups becomes 54 people in the video group In this study, ethical clearance was used, namely a letter of approval from the research ethics committee to carry out the research. This research has passed the ethical review of the research commission with No: 1109 / UN. 16.2 / KEP-FK / 2023.

3. Results

The results of the study before the intervention using video media were 13.15, after the intervention using video media the mean value was 17.41. The difference in mean values (average) before and after the intervention showed an increase in mean knowledge before and after the intervention with video media. The difference in value was tested using paired t-test analysis with a p-value/sig (2-tailed) of 0.001. Based on the results of statistical analysis using the Paired t-test on the average knowledge value before and after being given treatment with video media, the results obtained p-value/sig (2-tailed) = 0.001 $<\alpha = 0.05$, so there was a significant change meaning that there was an influence of video media on the knowledge of mothers of stunted toddlers at the Anak Air Health Center in Padang City.

4. Discussion

Based on the data in the table of differences in average values before and after the knowledge of mothers of stunting toddlers about stunting using video media, the mean score before the intervention was 13.15 and after the intervention was 17.41. This shows an increase in the mean knowledge before and after the intervention with video media. Waryana (2019) stated that after being given counseling, the average knowledge score of adolescent girls in the control group was 7.37, while the average knowledge score of adolescent girls in the treatment group was 8.44. There was a difference in knowledge scores about preventing KEK in the two groups of 1.07. Based on the statistical test (mean difference), a p-value of 0.001 ($p < 0.05$) was obtained. Yolahumaroh et al. (2024), in their study on differences in knowledge, attitudes, and behavior of mothers in the practice of providing MP-ASI using educational videos, found that before being given an educational video, most respondents' knowledge fell into the sufficient category (57%). After being given an educational video, respondents' knowledge increased, with 97.8% in the good category. The results of the Wilcoxon test showed a significant difference between the knowledge variables before and after the educational video was given, with a p-value of 0.001 ($p < 0.05$). The knowledge category that increased the most in respondents after being given the video was related to question items on texture, age, and frequency in providing MP-ASI to toddlers [12, 13].

The previous studies above are in accordance with this study where increasing video media can increase maternal knowledge. The increase in human absorption that only relies on the sense of sight is only around 82%. With the delivery of material with video media that relies on the sense of sight and hearing. Human absorption with the sense of sight and hearing is 93%. In addition, by watching videos, the audience feels like they are in the same place as the program shown in the video so that the video is more interesting, by using videos the message conveyed is more interesting and motivating for the audience. The message conveyed is more efficient because moving images can communicate messages quickly and realistically. Therefore, it can accelerate the understanding of the message more comprehensively. Audiovisual messages are more effective because audiovisual presentation makes the audience more concentrated.

5. Conclusion

Changes in maternal knowledge before and after watching can be seen from the results of the study, there was an increase in maternal knowledge. The results of maternal knowledge were higher compared to before conducting the video intervention.

6. Data Availability Statement

The data generated and analyzed during this study involve human participants and are not publicly available due to ethical and privacy considerations. However, they are available from the corresponding author upon reasonable request.

7. Ethical Statement

This study received ethical clearance from the Research Ethics Committee of the Faculty of Medicine, Universitas Sumatera Utara. The research has been approved under approval number: 1109/UN.16.2/KEP-FK/2023.

8. Author Contributions

Each author has made substantial contributions to this study, including conceptualization, study design, implementation, data collection, analysis, and interpretation. All authors have participated in drafting, revising, and critically reviewing the manuscript. They have provided final approval of the version to be published and have been involved in the decision regarding the journal for submission. Furthermore, all authors agree to take full responsibility for every aspect of the work.

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11. Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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