



Effectiveness of Audiovisual E-Module on the Behavior of Prospective Brides Regarding Preparation for Healthy Pregnancy

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A B S T R A C T

Prospective brides are the target group in efforts to improve pre-pregnancy health. Ahead of marriage, many prospective brides do not have enough information about reproductive health in the family, so that after marriage, pregnancy is often not well planned and not supported by good health status. The purpose of this study was to determine the effectiveness of audiovisual e-modules on the behaviour of prospective brides about healthy pregnancy preparation. This research is a quantitative study that uses a quasi-experimental design with a control group and a two-group pretest-posttest design. Samples were taken using the purposive sampling technique, obtaining a total of 32 respondents. The independent variable is education with audiovisual e-module media and leaflets. While the dependent variable is the behaviour of prospective brides about healthy pregnancy preparation. Data collection using a questionnaire. In analysing the effect of using the Wilcoxon Signed Rank Test using $\alpha = 0.05\%$. The results of the study showed that intervention through audiovisual e-module media was effective in improving the behavior of prospective brides and grooms related to healthy pregnancy preparation ($p = 0.000$). The Wilcoxon Signed Rank test proved that there was a significant change. Health education using audiovisual e-module media effectively influences bride-to-be behavior in preparing for a healthy pregnancy. Therefore, it is recommended to enhance reproductive health during the preconception period.

INTRODUCTION

The health status and behaviour of the bride-to-be before conception is known as the preconception period and is important for the health of women and future generations. Optimising health behaviour and lifestyle during the preconception period is very important because several developmental mechanisms and factors that affect birth outcomes occur in the early stages of pregnancy. Some modified health behaviours negatively impact outcomes during pregnancy that are difficult to change in the short term; therefore, addressing this requires early intervention during the preconception period. Efforts that must be made by the bride-to-be to look their best include consuming a balanced diet, exercising regularly with moderate intensity, controlling weight, and not gaining (Chivers, Boyle, Et al, 2020). Brides-to-be are the target for improving pre-pregnancy health. Ahead of the wedding, many brides-to-be do not have enough knowledge and information about reproductive health, so pregnancy after marriage is often not planned properly and is often associated with health problems (Mariyana dan Oktiningrum, 2022).

Based on data from the East Java Provincial Health Profile, AKI was recorded to increase in 2020 due to a lack of monitoring of high-risk pregnant women. AKI in Indonesia is 305 per 100,000 live births, and AKI in East Java is 98.39 per 100,000 live births. Meanwhile, in Sidoarjo, the maternal mortality rate (AKI) in 2022 is 37.3, meaning 37.3 maternal deaths per 100,000 live births. In absolute terms, the

number of maternal deaths is 13. The neonatal mortality rate is 1.8 per 1,000 live births, and the absolute number is 61 neonatal deaths. Meanwhile, the reported infant mortality rate (AKB) was 2.4 per 100,000 live births, or equivalent to an absolute value of 84 out of 34,834 live births (Profil Kesehatan Sidoarjo, 2022).

Brides-to-be need to be given information about reproductive health and how to plan a healthy pregnancy to improve their health before pregnancy. Brides-to-be are the right target group to improve pre-pregnancy health. Many couples do not understand reproductive health. As a result, pregnancies after marriage are often poorly planned and not supported by ideal health conditions. This is due to a lack of reproductive health knowledge (Irawati, Mawaddah, et al, 2023). Therefore, the researcher provides counselling with audiovisual e-module media at the Sidoarjo Health Centre with the hope that the maternal mortality rate at the Sidoarjo Health Centre will decrease and the quality of life of mothers will be good. Therefore, this study has the purpose of determining the effectiveness of the audiovisual e-module on the behaviour of prospective brides about preparing for a healthy pregnancy.

METHOD

This study uses a quasi-experimental design and uses the method of two groups: a pre-post control design group before treatment and a post-test control design group after treatment. In the design of this study, there are pretests, treatments, and post-tests, which are used to measure the state after treatment. Therefore, the measurement results after being given treatment become more accurate because they compare the pretest and post-test. The study has a population of 32 prospective brides at the Sidoarjo Health Centre. The sample in this study uses Federer's formula. Thus, each treatment group obtained 16 samples. The researchers used 16 samples for the experimental group of the audiovisual e-module and 16 samples for the control group of leaflets. The total number of subjects in this study is 32 women, with a research time of February-April 2024. The data collection technique of this study uses primary data through questionnaires that have been filled out by respondents. Previously, informed consent had been given to a catin who was willing to become a respondent. Next, respondents fill out a questionnaire (pretest). Then, respondents were given a health education intervention with an experimental group of audiovisual e-module media and a control group of leaflet media that focused on discussing the actions of prospective brides about preparing for a healthy pregnancy. After the treatment was completed, the respondents in the experimental group were given 3 days to understand the material contained in the audiovisual e-module. Meanwhile, the control group were given 1 day to understand the material contained in the leaflet. Furthermore, the researcher collected final data (post-test) by making observations of the respondents using a questionnaire sheet. The results of the observations of all respondents were collected when the pre-test and post-test were conducted and the data were processed

from the research. The Wilcoxon signed-rank test is used as a non-parametric test that aims to find out whether there is an influence on the intervention that has been given to the respondent. The next step is to carry out a normality test using the Shapiro-Wilk test.

RESULT

Table 1. Distribution of Respondent Characteristics for March - April 2024

Characteristic	Treatment Groups (Audiovisual E-Module)		Control Group (Leaflet)		Total	Percentage
	f	%	f	%		
Age (years)						
19-26	14	87,5%	15	93,75%	29	90,625%
27-35	2	12,5%	1	6,25%	3	9,375%
Education Level						
Primary Education (SD, SMP)	0	0	0	0	0	0
Secondary Education (SMA, SMK)	8	50%	11	68,75%	19	59,375%
Higher Education (Diploma, S1, S2)	8	50%	5	31,25%	13	40,625%
Work						
Freelance	4	25%	1	6,25%	5	15,625
Private Employees	9	56,25%	12	75%	21	65,625%
Merchant	1	6,25%	2	12,5%	3	9,375%
PNS Teacher	2	12,5%	1	6,25%	3	9,375%
Total	16	100%	16	100%	32	100%

Based on Table 1, in the treatment group using Audiovisual E-Module media, the results of the characteristics of the respondents in this study were obtained; most of the respondents were 19-26 years old, and almost all respondents. The education level of the respondents was found to have the same results, namely Secondary Education (SMA, SMK) and Higher Education (Diploma, S1, S2), for half of the respondents. The work of the respondents is for private employees of most respondents.

In the control group using leaflet media, the results of the characteristics of the respondents in this study, aged 19-26 years, were obtained for almost all respondents. The education level of the respondents was found to be the result of secondary education (SMA, SMK) for most respondents. The jobs of most respondents are private employees of almost all respondents.

Table 2. Data Analysis of Audiovisual E-Module Media and Leaflets Against the Knowledge of Brides to Be about Healthy Pregnancy Preparation Using the Wilcoxon Test

Knowledge		Before		After		Mean	Wilcoxon Test Results (<i>p-value</i>)
		f	%	f	%		
Treatment Groups Audiovisual E-Module	Good	11	68,75%	16	100%	28,50	0.000
	Enough	5	31,25%	0	0		
	Less	0	0	0	0		
Control Group Leaflets	Good	14	87,5%	15	93,75%	27,69	0,035
	Enough	1	6,25%	0	0		
	Less	1	6,25%	1	6,25		
Total		16	100%	16	100%		

Based on table 2 In the E-Visual Module treatment group before being given the intervention percentage, there were good results with most of the respondents and an average of 23.50, while after being given the

intervention percentage, there were good results with all respondents and an average of 28.50 with the results of the Wilcoxon Signed Rank Test (p-value) 0.000.

In the Leaflet control group before being given the percentage intervention, there were good results with almost all respondents and an average of 26.12, while after being given the percentage intervention, there were good results with almost all respondents and an average of 27.69 with the results of the Wilcoxon Signed Rank Test (p-value) 0.035.

It can be concluded that the results of the Wilcoxon signed rank test statistical test have a significant value obtained in the experimental group of 0.000 which means that there is an influence between the provision of audiovisual e-module media and leaflets on the knowledge of prospective brides about preparing for a healthy pregnancy. Therefore, it can be seen from these two methods that the Audiovisual E-Module is more effective in increasing the knowledge of prospective brides about preparing for a healthy pregnancy.

Table 3. Table of Data Analysis of Audiovisual E-Module Media and Leaflet Towards the Attitude of Prospective Brides about Healthy Pregnancy Preparation Using the Wilcoxon Test

Attitude		Before		After			Wilcoxon Test Results (<i>p-value</i>)
		f	%	Mean	f	%	
Treatment Groups Audiovisual E-Module	Positive	14	87,5%	28,70	16	100%	0.000
	Negative	2	12,5%		0	0	
Control Group Leaflets	Positive	8	50%	26,12	15	93,75%	0,035
	Negative	8	50%		1	6,25	
Total		16	100%		16	100%	

Based on table 3 In the E-Visual Module treatment group before being given the intervention percentage, there were positive attitude results with almost all respondents and an average of 28.70, while after being given the intervention percentage, there were positive results with all respondents and an average of 31.81 with the results of the Wilcoxon Signed Rank Test (p-value) 0.000.

In the Leaflet control group before being given the percentage intervention, there were positive results with some half of the respondents and an average of 24.00, while after being given the percentage intervention, there were good results with almost all respondents and an average of 33.13 with the results of the Wilcoxon Signed Rank Test (p-value) 0.003.

It can be concluded that the results of the Wilcoxon signed rank test statistical test have a significant value obtained in the experimental group of 0.000 which means that there is an influence between the provision of audiovisual e-module media and leaflets on the attitude of prospective brides about preparing for a healthy pregnancy. Therefore, it can be seen from these two methods that the Audiovisual E-Module is more effective in increasing the knowledge of prospective brides about preparing for a healthy pregnancy.

Table 4. Data analysis based on Audiovisual E-Module Media and Leaflet on the Actions of Prospective Brides on Healthy Pregnancy Preparation Using Wilcoxon Test

Actions		Before		Mean	After		Mean	Wilcoxon Test Results (<i>p-value</i>)
		f	%		f	%		
Treatment Groups Audiovisual E-Module	Good	3	18,75	28,75	13	81,25	31,81	0.000
	Enough	13	81,25		3	18,75		
	Less	0	0		0	0		
Control Group Leaflets	Good	3	18,75	29,63	11	68,75	32,06	0,041
	Enough	13	81,25		5	31,25		
	Less	0	0		0	0		
Total		16	100%		16	100%		

Based on table 4, In the Audiovisual E-Module treatment group before being given the percentage intervention, there were sufficient results with almost all respondents and an average of 28.75, while after being given the percentage intervention, there were good results with almost all respondents and an average of 31.81 with the results of the Wilcoxon Signed Rank Test (*p-value*) of 0.000.

In the Leaflet control group before being given the percentage intervention, there were sufficient results with most respondents and an average of 29.63, while after being given the percentage intervention there were good results with most of the respondents and an average of 32.06 with the results of the Wilcoxon Signed Rank Test (*p-value*) of 0.041.

It can be concluded that the results of the Wilcoxon signed rank test have a significant value obtained in the experimental group of 0.000, which means that there is an influence between the provision of audiovisual e-module media and leaflets on the actions of prospective brides about preparing for a healthy pregnancy. Therefore, it can be seen from these two methods that the Audiovisual E-Module is more effective in increasing the knowledge of prospective brides about preparing for a healthy pregnancy..

DISCUSSION

1. Effectiveness Before and After Being Given Audiovisual E-Modules and Leaflets on Healthy Preparation for Knowledge of Brides-to-be

Based on the results of the analysis that has been carried out, the knowledge of prospective brides before and after about preparing for a healthy pregnancy using audiovisual e-module media and leaflets has increased. The results of the knowledge statistics test before and after being given audiovisual e-module media and leaflets using the Wilcoxon Signed Rank Test obtained significant values, so it can be concluded that audiovisual e-module media is more effective in increasing the knowledge of prospective brides than leaflets.

Knowledge is the result of knowing something after a person has experienced sensing something. Research by Sutrisno and Umami (2019) found significant differences in the knowledge of prospective brides before and after being treated in the experimental group and the control group in the bride-to-be. The average

number of brides-to-be after being educated has increased compared to before the education was delivered. According to Aminin (2015), based on knowledge, a cat in data obtained at the time of the pretest who is less knowledgeable becomes more knowledgeable at the time of the posttest. The level of knowledge affects the decision to undergo premarital screening.

Another study conducted by Misha et al. (2017) is known to have succeeded in significantly increasing knowledge. The results of this study confirm the findings of previous research that electronic modules are still very diverse, with modifications and innovations, and continuing the design of e-modules is still. Many studies show that the use of electronic modules can help increase engagement, motivation, and participation, as evidenced by the increased participation of brides-to-be. According to Zarei & Mohammadi (2021), however, the educational process also requires a sufficient internet connection to access learning materials. However, this is not too much of a problem when using the internet, because the e-modules created can be downloaded and used outside the network. Therefore, e-modules are recommended for use in developing countries.

The researcher argues that the knowledge of the bride-to-be in the audiovisual e-module group has increased compared to leaflet media. This is because the bride-to-be is more interested in a spectacle than reading. Audiovisual e-module media has advantages over leaflet learning. In addition to audio, moving images are also displayed, and videos can show phenomena that are difficult to see in real life. This shows that media users in the learning process make it easier for respondents to access new knowledge.

2. Effectiveness Before and After Being Given Audiovisual E-Modules and Leaflets on Healthy Preparation for Attitudes of Brides-to-be

Based on the results that have been carried out, the attitude of the bride-to-be before and after about preparing for a healthy pregnancy using audiovisual e-module media and leaflets has improved. The results of the statistical test of attitudes before and after being given audiovisual e-module media and leaflets using the Wilcoxon Signed Rank Test obtained significant values, so it can be concluded that audiovisual e-module media is more effective in improving the attitude of prospective brides than leaflets.

Research by Heni Irawati, Apoina Kartini, and Sri Achadi Nugraheni (2019) states that from the attitudes obtained through education, one then digests and understands the information received. This change in attitude leads to becoming more self-respecting. A good attitude is based on good knowledge. The media is also a factor that affects a person's attitude. The increase in attitude is also due to the increase in knowledge. The increase in knowledge and attitude is achieved through a learning process involving all senses, where 13% of knowledge is obtained through hearing and 35-55% through training and vision. According to Arifah (2020), healthy attitudes and behaviours are difficult to achieve if other supporting aspects are not considered. If basic knowledge and adequate social support are not provided when

conducting the premarital test, it will be difficult to gain understanding and motivation to conduct premarital screening.

Annisa's research (2022) uses audiovisual e-module media to convey communication, the message conveyed serves as a guideline for thoughts and feelings in the form of ideas, information, beliefs, hopes, and appeals. The use of audiovisual e-module media as a learning tool aims to change attitudes and behaviours. In the process of changing attitudes and motivations, these changes are inseparable from changes in beliefs through the media of audiovisual e-modules. This change changes attitudes by incorporating new ideas, thoughts, and opinions through video communication messages shown to the individual attitude components. Safitri, Pangestuti & Kartini (2021), The use of audiovisual media is suspected to advance learning goals because it stimulates the senses of hearing and vision and can attract more (Mawaddah, 2023).

The researcher argues that the use of promotional methods and media must be appropriate and easily accepted by the target audience and can provide benefits such as stimulating the interest of the target group, overcoming special, temporal, linguistic and sensory limitations in the educational process, overcoming the passive attitude of the target group, providing stimulation and experience and achieving the same understanding. The media can play a role in overcoming barriers to understanding, promoting the provision of health information, and facilitating the delivery of information to target groups.

3. Effectiveness Before and After Being Given Audiovisual E-Modules and Leaflets on Healthy Pregnancy Preparation for Bride-to-be's Actions

The results of the analysis showed that the actions of prospective brides before and after preparing for a healthy pregnancy using audiovisual e-module media and leaflets increased. The results of the statistical test of actions before and after being given audiovisual e-module media and leaflets using the Wilcoxon Signed Rank Test obtained significant values, so it can be concluded that audiovisual e-module media is more effective in increasing the actions of prospective brides than leaflets.

An action is an act or something that is done with a specific purpose and intent. The research of Wulandari, Sukmandari, and Purnamayanthi (2021) said that self-confidence in general is a series of specific challenges and actions communicated by the bride-to-be that can be improved through several experiences with health problems. Handayani and Nurwindasari (2021) said is in accordance with the theory that convincing oneself to control one's health begins with the experience of taking expected actions based on past successes and failures.

The research of Abbasi et al. (2021) said that expectant mothers with high self-confidence said they would be better able to overcome challenges in the preconception process. It provides better control over physical and situational health and helps better understand that unpreparedness for pregnancy can have a serious impact on future pregnancies. They tend to get pregnant as early as possible because they believe

that preventive measures and maintaining health will be beneficial. On the other hand, mothers-to-be who have low confidence tend not to prepare for their pregnancy properly. They tend to avoid difficult behaviours, are unsure of what they are doing, and experience complications during pregnancy, childbirth, and BBLR. Karami et al. (2018) said that self-confidence allows a person to believe and act correctly to achieve the desired outcome, such as preparing for pregnancy.

Research by Dina Sri, M. Alamsyah & Hasi Susiarno (2023) said confidently that the success of health education is inseparable from the success of good and interesting media. One of the interesting media is audiovisual media that can be used to educate brides-to-be. Audiovisual as a medium is suitable for explaining the process because it is more realistic, absorbable, and can provide information that can be repeated or stopped as needed. Putri, Andara, and Sufyan (2021), Audiovisual media have more vision and hearing, increasing absorption and memory up to 50% of the information conveyed. is because it is influenced by the intensity of attention and awareness of the object.

According to Ratnasari (2018), currently, the health education media that are widely used in Indonesia are still traditional, such as the use of leaflets. This medium was chosen because it is considered very cheap and easy to make. Catin only receives information during medical consultations in the medical environment, so the use of brochures to communicate consultation materials is not very effective. In addition, it is often lost, forgotten, or easily torn, making the distribution of brochures less efficient.

Researchers argue that the actions of brides-to-be in the audiovisual e-module group are higher compared to leaflet media. This is because the bride-to-be is more interested in a spectacle than reading. Audiovisual e-module media have advantages over leaflet media. The advantages of audiovisual e-module media include animated video media that add a dimension of learning, and animated videos that display videos other than audio. Videos can also show phenomena that are difficult to see in real life. This shows that the use of media in the learning process makes it easier for respondents to accept new behaviours.

CONCLUSION

Based on the results of the research that has been carried out at the Sidoarjo Health Centre, Sidoarjo District, described in the discussion in the previous chapter, the researcher can conclude that there is knowledge that the prospective bride before and after being given the audiovisual e-module has good knowledge of all respondents, and the leaflet has good knowledge of almost all respondents; the attitude of the bride-to-be before and after being given the audiovisual e-module has a positive attitude of all respondents. Respondents and leaflets had a positive attitude in almost all respondents, and the actions of the bride-to-be before and after being given the audiovisual e-module were good. Almost all respondents and leaflets had good actions; most of the respondents.

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