International Journal of Educational Qualitative Quantitative Research (IJE-QQR)
ISSN: 2962-9918 (Online)
Vol. 2, No. 2, pp. 26-33

The Impact of Health Education through Lecture-Discussion Methods on Enhancing Hepatitis B Knowledge

Fiya Diniarti[1,2], Mohamed Saifulaman Mohamed Said[2], Norhashima Abd Rashid[2]
[1]Universitas Dehasen Bengkulu, Indonesia
[2]Lincoln University College, Malaysia

Article Info

Article history:
Received: Oct 07, 2023
Revised: Dec 20, 2023
Accepted: Dec 27, 2023

DOI: 10.58418/ijeqqr.v2i2.101

How to cite this article:
Diniarti, F., Said, M. S. M., & Rashid, N. A. (2023). The Impact of Health Education through Lecture-Discussion Methods on Enhancing Hepatitis B Knowledge. *International Journal of Educational Qualitative Quantitative Research*, *2*(2), 26–33.

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ABSTRACT

Health education is essential in promoting awareness and reducing stigma related to various medical conditions. Health education for pregnant women is vital to increase their knowledge about various aspects of health, including hepatitis B. Health education using the lecture-discussion method effectively conveys medical information and facilitates participants' more profound understanding. This study aims to determine the influence of health education using the lecture-discussion method on knowledge about hepatitis B infection in pregnant women. This study uses pre-experimental research. Data analysis used univariate and bivariate analysis, and the number of samples was 144 respondents. The results show a significant influence of health education with lecture and discussion methods on pregnant women's knowledge about hepatitis B infection. Health education, which integrates lectures and discussions, is hoped to be carried out continuously and sustainably to increase knowledge about hepatitis B infection in pregnant women. The researcher's recommendation in the future is to provide health education with a combination method integration (video, lecture, and discussion) in control groups and interventions. This research contributes to providing information and assisting in designing more effective health education interventions.

Keywords: Health Education, Lecture-Discussion, Hepatitis B, Knowledge

Corresponding Author:
Fiya Diniarti
University of Dehasen of Bengkulu, Indonesia
Email: fiyadiniarti@unived.ac.id

1. INTRODUCTION

The increasing number of hepatitis B sufferers in pregnant women is still a public health problem. Based on data from Indonesia's Health Profile in 2022, health education programs through the implementation of early detection of HBsAg in Indonesia (34 provinces). Early detection was carried out with a target number of 2,946,013 (66.4%) with the achievement of pregnant women who were detected positive for HBsAg for hepatitis B as much as 1.61% (47,550). In Bengkulu Province, the number of HBsAg early detection achievements in pregnant women is 60.9%. In percentage terms, the hepatitis B positivity rate in mothers decreased from 2.21% in 2017 to 1.61% in 2022. However, in absolute terms the number has increased in the last five years. This increase in number is in line with the increasing number of pregnant women who carry out early detection of HBsAg (Kementerian Kesehatan RI., 2022). One of the prevention to control this disease with an event to increase public knowledge about the definition, causes, signs and symptoms, treatment and prevention of hepatitis B infection is an important strategy to prevent the spread and control of the disease (Alaridah et al., 2023).

Various studies have been conducted on health education on increasing knowledge in pregnant women, showing that there is an influence of health education on increasing respondents' knowledge. Research by Permatasari et al. (2021) used the training method for pregnant women to provide health

education. Zibellini et al. (2021) and Nawabi et al. (2021) conducted an assessment of health education for pregnant women through health literacy interventions. Liu et al. (2022) used the antiviral therapy method to determine mothers' knowledge about hepatitis B. Bierhoff et al. (2021) conducted antenatal counseling health education through focus group discussions (F.G.D.) to learn about hepatitis B. Suryani & Mulyanto (2023) used the leaflet method to provide health education about hepatitis B to pregnant women. In this study, it provides novelty related to health education with lecture and discussion methods on the level of knowledge of pregnant women about hepatitis B. The purpose of this study is to determine the impact of health education and the effectiveness of the lecture-discussion method, with the aim of helping design more effective interventions to address hepatitis B.

1.1. Pregnant Women's Knowledge about Hepatitis B

The level of knowledge is very important to prevent hepatitis B from occurring in the mother and the baby itself (Gebrecherkos et al., 2020). Because it is known that hepatitis B is a dangerous disease that can cause extraordinary events (KLB) and death, therefore mothers must increase knowledge about the occurrence of hepatitis B and for the survival of the mother and the baby itself, therefore a high level of knowledge is needed to prevent the occurrence of hepatitis B and vertical transmission (Garg et al., 2023; Ginting, 2021).

Education about hepatitis B also includes information about how the virus is transmitted, such as through contact with contaminated blood or body fluids. According to (Patty et al., 2023), with adequate knowledge, pregnant women can be more proactive in maintaining their health and that of their babies. Increasing awareness and access to appropriate health information and services will contribute to the effective management and prevention of mother-to-child transmission of hepatitis B (Ade-Ojo et al., 2023; Matthews et al., 2023).

Pregnant women who have good knowledge about their hepatitis B status can take better preventive measures during pregnancy and childbirth (Safitri et al., 2023). For example, doctors can recommend antiviral treatment to reduce the viral load and reduce the possibility of transmission during childbirth. In addition, intensive prenatal care will ensure that the mother receives proper monitoring and management for her liver and overall health (Marita et al., 2023). With adequate medical information and support, pregnant women can go through pregnancy more calmly and safely.

In addition to the medical aspect, knowledge about hepatitis B also plays a role in reducing stigma and misunderstandings about this disease (Jabeen et al., 2023; Wan et al., 2023). Hepatitis B is often accompanied by stigma that can affect the mental health of pregnant women. Good education about this disease, its causes, and how it is transmitted can help pregnant women feel more comfortable and supported. This is also important to prevent the spread of misinformation and ensure that all individuals are involved in the care and support process.

1.2. Health Education

Health education is crucial in improving people's quality of life and well-being. By providing accurate knowledge about various aspects of health, from disease prevention to healthy eating, health education helps individuals make better decisions about their lifestyle (Jungwirth & Haluza, 2023; Laschke et al., 2023; Lee et al., 2023). This not only reduces the risk of chronic diseases such as diabetes and hypertension but also encourages healthy behaviors that can prevent infectious diseases. Clear and easily accessible information about health enables people to take preventive measures, understand early disease symptoms, and utilize health services effectively (Al-Jaroodi et al., 2020).

In addition, health education is essential in promoting awareness and reducing stigma related to various medical conditions. Accurate information without prejudice or misunderstanding helps people better understand mental and physical health conditions. This creates a more inclusive and supportive environment where individuals feel comfortable seeking medical help and undergoing necessary treatment. Overall, good health education improves individual knowledge and strengthens the public health system by creating a healthier and more informed population (Herlinawati et al., 2022).

Health education for pregnant women is vital to increase their knowledge about various aspects of health, including hepatitis B. This disease has continued to be a problem for a long time, the hepatitis B virus can attack children and cause chronic diseases. Chronic hepatitis can have a bad effect on a child's health later in life. Being infected with the hepatitis B virus can make children grow up by carrying or developing diseases, such as liver damage (liver cirrhosis), to liver cancer. To avoid this, it is a good idea for pregnant women to be given health education so that pregnant women know how to prevent the disease (Romauli & Setyaningsuci, 2022).

1.3. Lecture-Discussion Methods

The lecture-discussion method is a teaching approach that combines elements of lectures and discussions to create a more interactive and immersive learning experience (Degeng et al., 2017). In this method, a teacher or facilitator begins by giving a lecture that provides basic information about a topic. The

lecture aims to convey the knowledge, theories, or facts needed to understand the subject deeply. Then, after the lecture, a discussion session is held to allow participants to discuss, ask questions, and elaborate on the information presented.

One of the advantages of the lecture-discussion method is its ability to accommodate a variety of learning styles (Adawiyah, 2021). Lectures allow participants to receive information directly, while discussions provide opportunities for interaction, reflection, and application of knowledge in a more practical context. The lecture-discussion method helps participants not only remember information but also understand and apply it in real situations. In addition, this method facilitates problem-solving and the development of critical thinking skills through dialogue and debate.

The lecture-discussion method encourages active participation of participants in the learning process (Dompeipen et al., 2020). Discussions allow participants to ask questions, share views, and debate ideas introduced during the lecture. This increases their sense of ownership of the subject matter and deepens their understanding. Active involvement also facilitates the exchange of ideas and experiences that can enrich participants' perspectives and provide new insights that may not be gained from the lecture alone.

Health education using the lecture-discussion method effectively conveys medical information and facilitates participants' more profound understanding (Mulyani & Nurlinawati, 2020). In a lecture session, the instructor delivers basic knowledge about a health topic, such as disease prevention or management of a medical condition. The lecture provides a theoretical basis and essential information, helping participants understand critical aspects of the health topic. Following the lecture, a discussion session allows participants to share experiences, ask questions, and discuss practical applications of the information presented. The discussion provides an opportunity to clarify concepts, explore specific issues, and discuss challenges faced in applying health knowledge.

By combining lectures and discussions, this method facilitates more interactive and participatory learning (Hanatan et al., 2023). Lectures provide structured and systematic information, while discussions allow participants to actively engage, share personal views, and explore topics in greater depth. This improves comprehension and retention of the material and encourages participants to think critically and apply health knowledge to their daily lives. In addition, the open discussion environment helps reduce stigma around health issues, facilitates the exchange of helpful information, and creates greater awareness of the importance of preventive measures and appropriate health care.

2. METHOD

This study uses a pre-experimental research design with a one-group pre-post-test design approach (Sirait et al., 2022). This study was conducted on pregnant women who visited the Sawah Lebar Health Center in Bengkulu City, Indonesia. At the first meeting, a questionnaire will be distributed about knowledge about hepatitis B, followed by providing health education individually and in groups (looking at the situation and conditions of the research site. At the last meeting, a questionnaire was distributed to assess whether a change in knowledge occurred after being given health education.

The researcher approached the respondents for approval and accepted those who met the research criteria. Respondents were selected using probability sampling, where each individual in the population had the opportunity to be selected or not selected as a sample; respondents who came who met the inclusion criteria would be given a questionnaire and asked to fill out a questionnaire. The number of samples was 144 respondents, and the sample size was taken based on the formula Krejcie (Uakarn et al., 2021). Samples were collected during three months of June - August 2023.

The data analysis used in this study was univariate and bivariate analysis using the Wilcoxon Test using SPSS 24. The statistical hypothesis of this study is that health education using lecture-discussion methods significantly impacts pregnant women's knowledge of hepatitis B infection.

3. RESULTS AND DISCUSSION

3.1. Univariate Analysis Results

Table 1 below shows the univariate results for respondents' characteristics based on type of work, age, and level of education.

Table 1. Results of Characteristic of Respondents

Variable	Frequencies	Percentage
Education		
Low	62	43.1
Middle	70	48.6
High	12	8.3
Age		
15-24	30	20.9
25-34	43	29.8
35-44	51	35.5

	45-54	20	13.8
Work			
	No	60	41.6
	Civil Servants	18	12.5
	Self employed	50	34.7
	Other	16	11.2

Based on Table 1, it shows that most of the respondents have a low level of education (Elementary/Non-School) as many as 62 people (43.1%). Most of the respondents had a low level of knowledge as many as 72 people (50%). More than some of the respondents have an age range of 35-44 years as many as 51 people (35.5%) and more than some of the respondents do not have a job/do not make money as many as 60 people (41.6%).

Table 2. Overview of Before and After Health Education with Lecture and Discussion Methods

Level of Knowledge	Pre-test		Post-test	
	Frequencies	Percentage	Frequencies	Percentage
Good	8	5.6	104	72.2
Middle	64	44.4	40	27.8
Less	72	50	0	0.0
Total	144	100	144	100

Based on table 2, it shows that the level of knowledge of respondents is good before being given health education, a small part of them have knowledge of 5.6% and after being given health education, most of the knowledge increases by 72.2%. The level of knowledge in the middle before being given health education, the level of knowledge was almost half at 44.4% and after health education, almost half of the knowledge was 27.8% less knowledge before health education, almost half was 50% and after health education, none of the respondents had less knowledge.

3.2. Bivariate Analysis Results

The pre-test and post-test results show that health education increases pregnant women's knowledge about hepatitis B disease. Bivariate analysis was determined after a normality test; the results of the normality test with Shapiro-Wilk are in Table 3.

Table 3. Data Normality Test Results

Data	Significant (Shapiro-Wilk)	Information
Pre-test	0.002	Not normal
Post-test	0.003	Not normal

Based on Table 3, it shows that the data is not normally distributed, with a P-value = 0.001. Therefore, data analysis was carried out with the Wilcoxon test. The results of the statistical test using a non-parametric test to determine the influence of health education on increasing the knowledge of pregnant women about hepatitis B infection are as follows:

Table 4. The Influence of Health Education on Pregnant Women's Knowledge about Hepatitis B Infection

Knowledge	N	Minimum Value	Maximum Value	Mean	P-value
Before	144	9	16	12.50	0.001
After	144	13	19	15.57	

According to Table 4, among the 144 respondents who received health education about hepatitis B infection, their initial scores ranged from a minimum of 9 to a maximum of 16, with an average score of 12.50. After receiving the health education, their scores improved, ranging from a minimum of 13 to a maximum of 19, with an average score of 15.57. Based on the Wilcoxon's analysis, a P-Value less than 0.05 was obtained. This indicates that the null hypothesis (Ho) was rejected, leading to the conclusion that there is a significant impact of health education using lecture and discussion methods on the knowledge of pregnant women about hepatitis B infection.

3.3. Discussion

Based on the results of the study conducted that out of 144 respondents, it was shown that the majority had less knowledge, namely 72 people (50%) before health education with the lecture and discussion

method, this shows that mothers have less knowledge about hepatitis B infection, even though the majority of maternal education has a high school (SMA). This can happen because even with secondary education, but the individual's access to accurate and up-to-date sources of information about hepatitis B is very limited and the respondents do not know the information or how to get the information and the knowledge about hepatitis B continues to grow, if a person's education is not updated with the latest information then it is possible to have less and incomplete knowledge. The knowledge gained from formal education is often theoretical, with no practical application or direct knowledge of hepatitis infection.

This is in accordance with the theory Knowledge is information that is known or realized by a person. Knowledge includes, but is not limited to, descriptions, hypotheses, concepts, theories, principles and procedures that are correct or useful. There are many ways to gain knowledge, one of which is with non-formal education, a person can gain knowledge by participating in counseling with lecture and discussion methods (Aulia, 2022).

This is also supported by the health behavior theory (Health Belief Model) which says that education can also affect a person's knowledge about hepatitis B and can further affect disease prevention and control. Education is able to improve understanding, reduce risk, and support healthy behavior change, thereby contributing to more effective management and prevention of hepatitis B (Irnawati & Rahmawati, 2022).

The results of this study are in line with the results of the research of Indarti & Pradani (2022), which showed that the majority of pregnant women had sufficient knowledge before being given health education about hepatitis B infection (54.5%), This happened because the majority of respondents in high school education. The level of mother's education will affect the mother's knowledge and understanding of hepatitis B disease so that the mother has enough knowledge.

Another thing is also supported by the research of Sididi et al. (2022), which showed that after respondents received health education through counseling materials about hepatitis B, it was obtained to increase knowledge by 43.6 points on the average participant's score about the causes, clinical symptoms, ways of transmission, prevention, as well as several government health services to prevent, diagnose and treat hepatitis B disease. carried out has a positive impact. 14 (46.7) stated that they understood and 11 (36.7) stated that they understood the material very well.

The results of this study showed that the respondents before being given health education about hepatitis B infection had good knowledge of 8 respondents (5.6%). Pregnant women who have good knowledge can be due to mothers with higher education where based on the characteristics, namely 8.3% have a university education.

It is according to the cognitive development theory by Jean Piaget, formal and informal education helps the cognitive development of individuals, allowing them to understand medical and health concepts, including hepatitis B. and the results of Wisman (2020)'s research say education affects a person's knowledge about hepatitis B and can further affect preventive measures and health management. Education improves understanding, reduces risk and supports healthier behavioural change.

This study also found that pregnant women who had less knowledge before being given health education could have been because their mothers did not work, so they had limited social interactions that would affect a person's knowledge. This result is in accordance with Table 1's characteristics of pregnant women respondents. Most of them did not work, at 41.6%.

The results of this study are reinforced by the Maslow Hierarchy of Needs which states that self-actualization is the achievement of a person's full potential, involving the search for new knowledge and experiences. Mothers who do not work may have fewer opportunities to pursue learning and self-development opportunities outside of household responsibilities. Without engaging in work outside the home, mothers may not get the social feedback and rewards that are usually earned from the work environment, which can affect their motivation to continue learning and develop knowledge (Milla, 2022).

The results of this study are also reinforced by research by Pandey et al. (2021), showing that pregnant women who are positive for hepatitis B have an average knowledge score of only 1.45%, and the knowledge of pregnant women is also influenced by work. Mothers who do not work (housewives), as many as 96.4% have an influence on the increase in the occurrence of hepatitis B.

Based on the results of the study, it was shown that of the 144 respondents after health education (lectures and discussions) about hepatitis B infection, the majority of pregnant women's knowledge was in the sufficient category, namely 40 respondents (27.8%) and the rest had good knowledge of 104 respondents (72.2%). This as a whole there is an increase in knowledge because there is no more knowledge in the lack category.

The results of this study generally show that pregnant women's knowledge about hepatitis B disease shows an increase compared to the pre-test results. Health education can improve the health status of individuals, families, communities, reduce the risk of death due to a disease, health education aims to prevent the occurrence of hepatitis B. A person who is given health education will have good knowledge and behavior.

This is also in accordance with previous research by Romauli & Setyaningsuci (2022) that the average knowledge of pregnant women before being given health education has increased significantly after being given health education with a P-value of 0.000 (<0.05).

Based on the results of the previous study, it was shown that before being given health education about hepatitis B disease, the results were obtained with a minimum score of 9, a maximum of 13, an average score of 12.50 and after health education with a minimum score of 13, a maximum of 19, an average score of 15.57 based on the results of the wilcoxon test, with a $\alpha = 0.05$, a P-value of 0.001 where $0.001 < 0.05$, this means that ho is rejected and ha is accepted, namely there is an influence of health education on the improvement of knowledge pregnant women about hepatitis B disease (Suryani & Mulyanto, 2023).

Respondents in this study experienced an increase in knowledge before and after and education about hepatitis B infection. Based on the theory of health behavior in the health promotion book, it was stated that by providing health education using the lecture and discussion method effectively, the implementation of health counseling can increase participants' knowledge in a structured, interactive manner so that they understand and apply basic information, theories and related data Hepatitis B in pregnant women better health as well as the implementation of discussions to allow participants to share experiences, discuss practical applications and information, answer questions, discussions can deepen understanding and provide additional context (Pakpahan et al., 2021).

The results of previous research, according to Masnarivan, et al. showed that providing health education with lecture and discussion methods could provide an increase in knowledge to pregnant women by 11.93 points, with the results of the Wilcoxon test having the effect of providing counseling with an increase in knowledge p=0.001 ($P < 0.05$) (Yuni et al., 2023).

The effectiveness of the lecture-discussion method in health education involves a comprehensive evaluation of how this method affects participants' knowledge, attitudes, and behavior. The lecture method, which focuses on directly delivering information from the instructor to the participants, can effectively and systematically convey basic information and theory. However, to ensure in-depth understanding, group discussions that follow the lecture allow participants to ask questions, share experiences, and discuss the material interactively. By combining these two approaches, participants receive information and are actively involved in the learning process, which can increase information retention and practical application.

Evaluating the effectiveness of the lecture-discussion method involves measuring changes in participants' knowledge and attitudes before and after the intervention. Participant engagement in the discussion and feedback on the quality of the lecture material and the presenter's skills can provide additional insight into how well the method is being received and implemented. Through in-depth analysis of quantitative and qualitative data and consideration of factors such as participant interaction and material relevance, it can be determined to what extent the lecture-discussion method successfully achieves its health education goals and what needs to be improved to increase its effectiveness.

4. CONCLUSION

Health education using the lecture-discussion method significantly improved pregnant women's knowledge about hepatitis B infection. Interventions involving structured health education using the lecture-discussion method effectively enhanced participants' understanding of the prevention, causes, and impacts of Hepatitis B. This approach not only enhances theoretical knowledge but can also strengthen preventive behaviors in the community. Therefore, integrating these educational methods into public health programs can effectively increase awareness and knowledge about Hepatitis B. Based on the results of the discussion and conclusion, the researcher gave the following suggestions for the next researcher to provide health education with a combination method and integration between videos, lectures, and discussions), using two groups (group and control).

ACKNOWLEDGMENT

We would like to thank the Bengkulu City Health Office, the Sawah Lebar Health Center of Bengkulu City, University of Dehasen of Bengkulu, and Lincoln University College.

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