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The Effect of Health Education Using A Pocket Book About Hepatitis B on The Knowledge of Prospective Brides

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Abstract

Hepatitis, an inflammation of the liver caused by a virus, accounts for 1.1 million deaths globally each year, with 96% caused by hepatitis B and C. The National Program prioritizes the Prevention of Mother-to-Child Transmission (PPIA), as 95% of hepatitis B transmissions occur vertically. Health education, which aims to change unhealthy behaviors, is more effective when supported by educational media such as pocket books, which are small, informative, visually appealing, and easy to carry, allowing individuals to access the material anytime. This study aimed to analyze the effect of health education using pocket books on Hepatitis B knowledge among brides-to-be at the Pahauman Community Health Center in Landak District. A quasi-experimental design with a pre-post test without a control group was employed, involving 31 female brides-to-be selected through total sampling. Participants received health education via pocket books, and their knowledge of Hepatitis B was assessed before and after the intervention. The results showed that after the intervention, the average knowledge score was 93.10, with a median of 90 and a standard deviation of 6.231, ranging from 80 to 100. Statistical analysis demonstrated a significant improvement in knowledge, with a p-value of 0.000 ($p < 0.05$). In conclusion, health education using pocket books significantly enhanced the knowledge of prospective brides regarding Hepatitis B at the Pahauman Community Health Center in Landak District.

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1. INTRODUCTION

Hepatitis is an inflammatory disease of the liver caused primarily by viral infection and is responsible for approximately 1.1 million deaths globally each year, with hepatitis B and C accounting for the vast majority of these fatalities. Hepatitis B is commonly transmitted through blood and bodily fluids, with mother-to-child transmission being the most frequent route, and an estimated 296 million people worldwide are living with hepatitis B infection. Hepatitis C, meanwhile, is primarily transmitted through blood exposure, particularly through unsafe injection practices and inadequate sterilization of medical equipment (Kementerian Kesehatan Republik Indonesia, 2023). Hepatitis B virus (HBV) infection continues to be a major health concern in Indonesia, where global estimates indicate that 350–400 million people have been infected with HBV—nearly one-third of the world’s population—and the national prevalence remains high at 4.0–20.3% among healthy individuals, with 7.1% of the population testing HBsAg-positive. The genotype distribution in Indonesia is dominated by genotype B, followed by C, D, and A (Kementerian Kesehatan Republik Indonesia, 2019).

Local surveillance data also highlight the burden of hepatitis B in West Kalimantan, where among 26,855 prospective brides and grooms screened for hepatitis B, 1.4% tested reactive, and at the Pahauman Community Health Center in Landak Regency, 56 out of 5,529 prospective brides and grooms were found reactive in 2022 (Dinas Kesehatan Provinsi Kalimantan Barat, 2023). Preliminary observations at this health center additionally show an increasing number of pregnant women testing positive for HBsAg in 2023, while interviews with affected mothers revealed low awareness and insufficient knowledge regarding hepatitis B prevention and management. This condition reflects the ongoing challenges in improving knowledge among women of reproductive age, despite active national screening programs. Vertical transmission accounts for 95% of hepatitis B infections in infants, making the prevention of mother-to-child transmission a national priority. Since 2015, Indonesia has implemented early detection of hepatitis B among prospective brides to break the chain of transmission through premarital screening.

Hepatitis B infection during pregnancy poses serious risks for the fetus, including premature birth, miscarriage, and neonatal hepatitis B infection, most of which occur during delivery (Lestari et al., 2022), and therefore increasing women’s knowledge prior to pregnancy is essential to reducing complications and preventing chronic infection in newborns. Health education plays a vital role in improving knowledge and promoting preventive behavior, with midwives serving as trusted health professionals who guide women throughout the reproductive cycle. Educational strategies become more effective when supported by appropriate learning media, including audiovisual tools, brochures, or pocket books, which facilitate understanding and retention of information (Akbar et al., 2021; Sari & Astuti, 2020; Gantina et al., 2024). Pocket books offer particular advantages due to their portability, visually appealing format, and ease of understanding, allowing readers to reinforce information through repeated exposure (Wulansari, Winarni & Handy, 2021).

Although national programs have emphasized hepatitis B prevention and premarital screening, evidence remains limited regarding effective educational interventions specifically designed for prospective brides, particularly in rural or semi-rural settings such as Landak Regency. Most existing studies focus on pregnant women, postpartum mothers, or the general community, leaving a research gap in populations preparing for marriage, who represent a critical target group for early prevention. The lack of studies evaluating pocket-book–based educational tools for hepatitis B prevention among

prospective brides further emphasizes the need for research addressing this group, particularly given the potential of such materials to improve understanding and encourage proactive health behavior.

The novelty of this study lies in evaluating the effectiveness of pocket-book–based health education on hepatitis B knowledge among prospective brides, a population that has received limited attention in previous research. This approach integrates reproductive health preparation with infectious disease prevention, addressing a strategic window before pregnancy when knowledge acquisition and preventive actions can yield the greatest impact. By focusing on educational materials that are accessible, user-friendly, and adaptable to community settings, the study introduces an innovative method for strengthening early intervention in hepatitis B prevention.

Based on the background and identified gaps, this study aims to determine the effect of health education using pocket books on the knowledge of prospective brides about hepatitis B at the Pahauman Community Health Center in Landak Regency. Through this objective, the research seeks to contribute empirical evidence supporting the use of practical educational tools to enhance hepatitis B awareness, reduce transmission risks, and strengthen reproductive health preparation at the community level.

2. METHOD

This study employed a quasi-experimental design with a one-group pretest–posttest approach without a control group. The research was conducted at the Pahauman Community Health Center during the premarital screening period from February to March 2024. This design was selected to evaluate changes in knowledge before and after the intervention within the same group of participants.

The population in this study consisted of all prospective brides undergoing premarital screening at the Pahauman Community Health Center during the study period. A total of 31 prospective brides met the inclusion criteria and were selected using a total sampling technique, meaning that all eligible participants were included in the study. This approach ensured that the sample accurately represented the population receiving premarital services in the area.

Data collection involved two main steps. First, researchers conducted face-to-face interviews to identify participants and obtain baseline information before administering the pretest questionnaire. Primary data were collected using a structured questionnaire designed to assess the participants' knowledge of hepatitis B. The same questionnaire was administered after the educational intervention to evaluate changes in knowledge. All questionnaires were completed directly by the respondents with guidance from the researchers when necessary.

Data analysis was conducted in two stages. Univariate analysis was performed to describe the characteristics of participants using frequency distributions and proportions. This provided an overview of demographic characteristics and baseline knowledge levels. Bivariate analysis was then conducted using the dependent t-test to determine differences in knowledge scores before and after the intervention. This parametric test was selected to examine the relationship between numerical variables, and the results were presented in the form of p-values to determine statistical significance.

Overall, the combination of a quasi-experimental design, total sampling, structured data collection procedures, and appropriate statistical analysis enabled the study to assess the effectiveness of health education using pocket books in improving the knowledge of prospective brides about hepatitis B.

3. RESULTS AND DISCUSSION

Table 1. Distribution of Respondent Characteristics.

Characteristics	Frequency	%
Age		
< 20 years	16	51.60
20–35 years old	15	48.40
> 35 years old	0	0
Total	31	100
Education		
Basic	14	45.20
Secondary	14	45.20
High	3	9.70
Total	31	100
Employment		
Not working	16	51.60
Working	15	48.40
Total	31	100

Table 1 shows that the respondents were in the < 20 years old phase, namely 16 people (51.60%). The dominant education level of the respondents was elementary school, junior high school, and high school, namely 14 people (45.20%). In terms of employment characteristics, some of the respondents were unemployed, namely 16 people (51.60%).

Table 2. Descriptive statistical distribution of knowledge among prospective brides before and after being given the Pocket Book at the Pahauman Community Health Center in 2024.

	n	Median	SD	Min	Max
Before	31	60	8.778	40	73
After	31	90	6.231	80	100

Table 2 shows that the results of the analysis of the knowledge of prospective brides before being given the Pocket Book showed an average of 60.45 with a median value of 60 and a standard deviation (SD) of 8.778. The minimum score was 40 and the maximum score was 73. The results of the analysis of the knowledge of prospective brides after being given the Pocket Book showed an average of 93.10 with a median value of 90 and a standard deviation (SD) of 6.231. The minimum score was 80 and the maximum score was 100.

Table 3. Results of bivariate analysis of differences in knowledge of prospective brides and grooms before and after being given the Pocket Book at the Pahauman Community Health Center in 2024.

Variable	Z	Sig
Knowledge (<i>pre-post</i>)	-4.890	0.000

Table 3 shows that the p-value is 0.000 ($p < 0.05$), so H_a is accepted, meaning that the Pocket Book affects prospective brides' knowledge about Hepatitis B.

DISCUSSION

The findings of this study regarding the effect of health education on prospective brides' knowledge of hepatitis B are discussed in this subsection. Before receiving health

education through the pocket book, the knowledge level of prospective brides showed relatively low results. Based on Table 2, the average pretest score was 60.45, with scores ranging from 40 to 73. These findings indicate that prior to the intervention, participants had insufficient understanding of hepatitis B. This low level of knowledge was influenced by the limited awareness and initiative of prospective brides to seek information regarding hepatitis B. According to Darsini (2019), knowledge refers to an individual's capacity to recall or recognize names, terms, formulas, and sources of information. Ridwan et al. (2021) further explain that knowledge is the outcome of sensing and perceiving stimuli through the five senses, with sight and hearing contributing the most to human understanding. Thus, inadequate exposure to relevant information contributed to the limited knowledge observed in this study.

Following the distribution of the pocket book, there was a notable improvement in participants' knowledge. The average posttest score increased to 93.10, with values ranging from 80 to 100, representing a substantial increase of 32.65 points. This improvement aligns with the primary purpose of health counseling, which is to disseminate health-related messages to individuals and communities to raise awareness and promote healthier behaviors (Notoatmodjo, 2012). Media plays a critical role in enhancing health counseling, as different forms of educational media influence the effectiveness of information delivery. The results of this study are consistent with prior research. Simanjuntak (2020) found an increase in knowledge from an average of 50.4 before health education to 64 afterward. Additionally, Yanti et al. (2021) reported an increase in respondents' knowledge from 28% to 92% after receiving health education, demonstrating the strong influence of educational interventions on improving understanding.

The findings of this study further support the theory presented by Notoatmodjo (2018), who states that knowledge is obtained through sensory input—primarily through sight and hearing—using various media such as brochures, posters, magazines, counseling, and seminars. Wijayanti et al. (2023) also emphasize that individuals retain information more effectively when exposed to both visual and auditory stimuli, with up to 50% of knowledge retained when learning combines these senses. Delivering information solely through verbal communication may lead to misinterpretation; therefore, the use of pocket books in this study served to reinforce messages clearly and allow repeated reading. Educational media enhance understanding by providing clarity and supporting the transmission of key messages (Sulaiman, 2022), making the pocket book an effective tool in this intervention.

Statistical analysis confirmed that there was a significant difference in knowledge before and after the intervention, with a p-value of 0.000 ($p < 0.05$). This finding aligns with Susanti et al. (2018), who found that premarital education significantly improved the knowledge and attitudes of prospective brides. The use of a pocket book in this study was intended to evaluate its effectiveness as an educational medium. As suggested by Setiawati et al. (2020), the choice of media is crucial in determining the success of health education interventions. Pocket books serve as concise, portable sources of information that are easy to understand, making them beneficial for midwives and health professionals in providing educational support to prospective brides.

The advantages of pocket books lie in their practicality and ability to enhance knowledge, especially concerning hepatitis B prevention and pregnancy preparation. Premarital reproductive health examinations, including hepatitis B screening, are highly recommended as early detection efforts. If a prospective bride or groom is diagnosed with hepatitis B, vaccination is advised before pregnancy. Awareness of hepatitis B prior to marriage is therefore essential. Consistent with this study, previous research also shows

knowledge improvement following health education interventions. Supadmi et al. (2022) found that adolescent knowledge about hepatitis B increased significantly after socialization activities. Similarly, Syukri et al. (2021) reported significant improvements in students' attitudes and understanding of hepatitis B risk factors after receiving film-based health education, demonstrating that educational interventions can effectively promote preventive behaviors.

4. CONCLUSION

It can be concluded that health education delivered through pocket books has a substantial effect on improving the knowledge of prospective brides and grooms about Hepatitis B at the Pahauman Community Health Center in Landak Regency. The intervention led to a clear enhancement in their understanding when comparing the level of knowledge before and after receiving the educational material. This improvement demonstrates that pocket books serve as an effective learning tool in supporting premarital health education programs, particularly in increasing awareness and comprehension related to Hepatitis B prevention.

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