



THE EFFECT OF HEALTH EDUCATION TROUGH SOCIAL MEDIA ON SAFETY BEHAVIOR AMONG MIDWIVES TOWARD SAFE AND HEALTHY CHILBIRTH PROCESS

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Abstract

The greatest risk factor for transmission occurs between pregnant women and children, both during childbirth and in infancy, with a risk factor of up to 99%. Neonatal intervention will reduce the risk of transmission from 95% to <5%. Safety behavior is proven to have an important role in preventing work accidents and PAK, because good safety behavior will prevent exposure to danger to health workers, including midwives. Injuries, illnesses and even deaths are mostly caused by health workers not implementing safety behavior, which is also increasingly exacerbated by dangerous work systems and environments. The importance of knowledge about safety behavior such as the use of PPE and compliance with SOPs can be seen from the very high prevalence of accidents and PAK. Safety behavior that is classified as low has an impact on health workers being exposed to disease and experiencing work accidents. The development of social media with infographics, images and video content is a phenomenon that needs to be utilized to implement safety behavior. The high number of social media users has the potential to be used as educational media, including Health Education. This research aims to see the impact of health education through social media on the safety behavior of midwives towards a healthy and safe birth process, so that it can be seen how much impact the safety education provided has on aspects of knowledge, attitudes and behavior. This type of research is a true experiment using a pre-test and post-test research design. The population of this study was 86 people and the sample size was 60 people. The independent variable in this research is health education and the dependent variable is safety behavior. Research data was analyzed using paired t-test with SPSS.25. The results of this study show that health education significantly influences the safety behavior aspects of respondents which include the level of knowledge of SOPs, the level of attitude towards compliance with SOPs, knowledge of PPE and the level of compliance with the use of PPE (p value = 0.000).

Keyword: Health Education, Safety Behaviour, Occupational Diseases

INTRODUCTION

The National Institute for Occupational Safety and Health released data that around 5,000 health workers in America are infected with hepatitis B, 47 people are HIV positive per year, and every year 600,000 - 1,000,000 needle stick injuries, with an estimated 60% of other injury cases going unreported (Mayangkara and Tamtomo, 2021). The results of Joseph's research from 2005-2007 in Indonesia also show that the accident rate of Needle Stick Injury or needle pricks is quite high with around 38-73%

of the total health workers experiencing this injury, and one of the causes of this high number of injuries is because health workers in particular do not wear PPE completely and correctly (Carayon and Alvarado, 2015).

Data on the prevalence of one of the PAK among midwives released by Midwife Educator & Quality Coordinator & Immunization Coordinator / Public Health Nurse (2020) explained that the Hepatitis B Virus or (HBV) with chronic conditions is in the Asia-Pacific region with a prevalence of 90%. The greatest



risk factor for transmission occurs between pregnant women and children, both during childbirth and in infancy, with a risk factor of up to 99%. Neonatal intervention will reduce the risk of transmission from 95% to <5%. Hepatitis transmission is likely to occur in the womb, during labor, or after birth. The low knowledge of health workers, including midwives, regarding Hepatitis B further exacerbates the possibility of increasing the prevalence of this disease. Research by Pham et al (2019) of health workers in Vietnam showed that only 30.1% of the sample answered correctly questions about hepatitis. The results of this study also showed that 24.2% of the sample had experienced needle stick accidents.

Safety behavior is proven to have an important role in preventing work accidents and PAK, because good safety behavior will prevent exposure to danger to health workers, including midwives. Injuries, illnesses and even deaths are mostly caused by health workers not implementing safety behavior, which is also increasingly exacerbated by dangerous work systems and environments (Dodoo and Al-Samarraie, 2019). Through various studies conducted, it shows that several solutions have been suggested to prevent work accidents by focusing on increasing safety knowledge, designing activities that are safe for workers, and improving safety behavior (Dodoo and Al-Samarraie, 2019). The importance of knowledge about safety behavior such as the use of PPE and compliance with SOPs can be seen from the very high prevalence of accidents and PAK. Safety behavior that is classified as low has an impact on health workers being exposed to disease and experiencing work accidents.

The development of social media with infographics, images and video content is a phenomenon that needs to be utilized to implement safety behavior. Kepios (2022) in his research shows that the number of Indonesian social media users reached 191.4 million in January 2022. This figure increased by 21 million or 12.6 percent from 2021. The high number of social media users has the potential to be used as educational media, including Health Education. Krause et al. (2018) in their research on the use of media and technological developments to improve safety behavior with virtual media during hurricane disasters showed high significance and effectiveness. Improving a health indicator really depends on the type of intervention provided, with the right media and

intervention it will generate awareness to carry out the health aspects being promoted (Hu and Chen, 2018).

RESEARCH METHODS

This type of research is a true experiment, namely research by conducting trials on a group of subjects with a comparison group and using randomization techniques to assign subjects to the treatment or control group (Dharma, 2015). The research design used is pre test and post test with control, namely experimental research with intervention in a group with a comparison or control (Dharma, 2015). In this research, the subjects studied will be given treatment accompanied by a control group as a comparison of experimental results, including variables that may appear and cannot be controlled. This research aims to determine the influence of health education through social media on safety behavior among midwives towards a healthy and safe birth process. This research was carried out from October to November 2022. The research population was 86 people and the sample was 60 people. The independent variable in this study is Health education and the dependent variable is Safety Behavior which includes SOP compliance behavior (SOP knowledge, SOP compliance attitudes, and SOP compliance actions) and PPE use (PPE knowledge, PPE usage attitudes, and PPE usage actions).

In the initial stage of the research, a pre-test was first carried out through direct observation of the midwife during the birthing process, using a questionnaire as a reference. The next stage of research is providing treatment to the subjects under study with health education via social media regarding PPE and birth SOP via social media Instagram. The time required for the health education process is 7 days, with 2 materials or posts per day. The final stage of the research was a posttest through 3 observations of the birthing process carried out by the midwife. The questionnaires given in the pre-test and post-test processes have the same questions, then the research results are analyzed with SPSS.25 and using *t-test paired*.

RESULT AND DISCUSSION

Respondent Characteristics

This section will explain descriptively and generally the condition of data regarding personal identity starting from age, education, employment status and length of work so that it

can describe the characteristics of the respondents.

Table 1. Characteristics of Respondents

Variable	Frequency (n)	Percentage (%)
Age		
18 – 25 years	25	29,1
26 – 45 years	42	48,8
> 45 years	19	22,1
Education		
Diploma III	31	36,04
Diploma IV / bachelor	53	61,63
Profession	2	2,33
Job Status		
State Civil Apparatus (ASN)	32	37,21
Non State Civil Apparatus	54	62,79
Length of Work		
< 1 years	29	33,72
1-5 years	33	38,37
5-10 years	14	16,28
> 10 years	10	11,63
Competency Improvement that followed		
Midwifery Update (MU)	26	30,23
Contraceptive technology Update (CTU)	22	25,58
Not updating competencies	38	44,19

Source: Primary data 2023

Based on table 1 above, it can be seen that of the total 86 respondents, most of them were aged (%), had a diploma education level (61.63%), had non-ASN status (62.79%), had worked for 1 to 5 years (38.27%) and the majority of respondents (44.19%) did not increase the competency of Midwifery updates and contraceptive technology updates which are standards for midwifery staff.

Description and frequency of research variables

Midwives' knowledge of SOPs for a healthy and safe birth process before and after health education via social media can be seen in table 2. Table 2 above shows that the knowledge

of midwives in a healthy and safe delivery process regarding SOPs before health education is carried out is sufficient (47.7%) and knowledge of midwives' SOPs after health education is carried out is good (63.9%).

Table 2. Knowledge of SOP's before and after health education

Variable	Frequency (n)	Percentage (%)
Knowledge of SOPs before health education is carried out		
Low	38	44,2
Enough	41	47,7
Good	7	8,1
Knowledge of SOPs after health education		
Low	3	3,5
Enough	28	32,6
Good	55	63,9

Source: Primary data 2023

The first hypothesis in this research aims to determine the effect of health education through social media on increasing knowledge of SOPs among midwives towards a healthy and safe birth process before and after treatment.

Compliance with midwife SOP

The attitude of SOP compliance among midwives towards a healthy and safe birth process before and after health education via social media can be seen in table 3 below:

Table 3. Compliance with SOP's before and after health education

Variable	Frequency (n)	Percentage (%)
Attitude to comply with SOPs before health education is carried out		
Low	18	20,9
Enough	43	50
Good	25	29,1
SOP Compliance Attitude after health education		
Low	9	10,5
Enough	27	31,4
Good	50	58,1

Source: Primary data 2023

Table 3 above shows that the level of SOP compliance by midwives in the process of healthy and safe childbirth regarding the SOP before health education is carried out is sufficient (50%) and the level of SOP

compliance by midwives after health education is carried out is good (58.1%). The first hypothesis in this study aims to determine the effect of health education through social media on the level of SOP compliance among midwives towards a healthy and safe birth process before and after treatment..

Midwives' knowledge regarding Personal Protective Equipment (PPE)

PPE knowledge among midwives leads to a healthy and safe delivery process before and after health education is carried out via social media.

Table 4. PPE knowledge before and after health education

Variable	Frequency (n)	Percentage (%)
Knowledge of PPE before health education is carried out		
Low	32	37,2
Enough	45	52,3
Good	9	10,5
Knowledge of PPE after health education		
Low	2	2,3
Enough	8	9,3
Good	76	88,4

Source: Primary data 2023

Table 4 above shows that the level of PPE knowledge of midwives in a healthy and safe delivery process before health education is carried out is sufficient (52.3%) and the level of PPE knowledge of midwives after health education is carried out is good (88.4%). The first hypothesis in this research aims to determine the effect of health education through social media on the level of PPE knowledge among midwives towards a healthy and safe birth process before and after treatment.

PPE compliance attitudes towards midwives

The attitude of PPE compliance among midwives towards a healthy and safe delivery process before and after health education via social media can be seen in Table 5.

Table 5. PPE compliance before and after health education

Variable	Frequency (n)	Percentage (%)
Compliance with the use of PPE before health education is carried out		

Variable	Frequency (n)	Percentage (%)
Low	25	29,1
Enough	39	45,3
Good	22	25,6
Compliance with the use of PPE after health education		
Low	7	8,1
Enough	16	18,6
Good	63	73,3

Source: Primary data 2023

The table 5 shows that the level of compliance with the use of PPE by midwives in a healthy and safe delivery process before health education is carried out is sufficient (45.3%) and the level of compliance with the use of PPE by midwives after health education is carried out is good (73.3%). The first hypothesis in this research aims to determine the effect of health education through social media on the level of compliance in the use of PPE among midwives towards a healthy and safe birth process before and after treatment.

Table 6. Table of t-test calculation results

Variable	Pair	t- hitung	Sig.(2 tailed)
SOP Knowledge Level			
Group 1	Posttest- pretest	-5.097	0,000
Group 2	Posttest- pretest	-8.824	0,000
Group 3	Posttest- pretest	-3.153	0,000
SOP Compliance Attitude			
Group 1	Posttest- pretest	-3.359	0,000
Group 2	Posttest- pretest	2.118	0,004
Group 3	Posttest- pretest	2.921	0,001
level of PPE knowledge			
Group 1	Posttest- pretest	4.862	0.017
Group 2	Posttest- pretest	-4.755	0.016
Group 3	Posttest- pretest	4.668	0.000

PPE Compliance Attitude

Group 1	Posttest- pretest	- 4.249	0.000
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Variable	Pair	t- hitung	Sig.(2 tailed)
Group 2	Posttest- pretest	- 4.092	0.000
Group 3	Posttest- pretest	- 4.941	0.000

Based on table 6 above, it can be seen that there is a significant change regarding the level of knowledge and attitude of respondents'

compliance with SOP and PPE (p value < 0.05) between before and after the treatment.

In table 7 above, the Wilks' Lambda test reveals a difference in the increase in the dependent variables of SOP compliance (knowledge and attitude of SOP compliance) and use of PPE (knowledge of PPE and attitude of compliance with PPE use) together in the research group. The results from the table above show the Sig value of Wilk's lambda is 0.000.

Tabel 7. Multivariate Tests

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Pillai's Trace	.989	425.139 ^a	6.000	28.000	.000
	Wilks' Lambda	.011	425.139 ^a	6.000	28.000	.000
	Hotelling's Trace	91.101	425.139 ^a	6.000	28.000	.000
	Roy's Largest Root	91.101	425.139 ^a	6.000	28.000	.000
Metode	Pillai's Trace	.939	4.275	12.000	58.000	.000
	Wilks' Lambda	.273	4.271 ^a	12.000	56.000	.000
	Hotelling's Trace	1.893	4.259	12.000	54.000	.000
	Roy's Largest Root	1.294	6.253 ^b	6.000	29.000	.000

Thus, because the Sig value is < 0.05 , there is a difference in the increase in SOP compliance (knowledge and attitude of SOP compliance) and PPE use (knowledge of PPE and attitude of compliance with PPE use) in the three research groups.

Knowledge of SOPs for midwives towards a healthy and safe birth process.

Based on the results of the Paired T-Test, it was found that there was a difference before and after being given education via social media with a p -value < 0.05 , which means that there was an influence before and after health education via social media or it could be seen that the test results were where There is an influence of health education on knowledge of birth SOPs. Knowledge is one of the factors that influences behavior. If someone has good knowledge of SOPs for midwives then their behavior and actions towards childbirth will also be good. Knowledge of SOPs which consist of these components and with visualization of SOPs can increase knowledge which can then determine the attitude and behavior of a midwife in the birthing process.

In Fitriyah's research (2019) stated that health education through social media had an effect in increasing midwives' knowledge in the ANC process by 1,100 times that of the control group. Health workers, in this case especially midwives, prefer to use sophisticated technology to search for various kinds of information they need and are considered not boring because various interesting content can also be accessed simultaneously (Firmansyah, 2019). Health education through social media is one way to improve the quality of the birthing process by increasing a midwife's knowledge regarding midwifery SOPs. So it can be said that the appropriate use of social media is very helpful in the education process, especially in increasing knowledge of SOPs so that childbirth is healthy and safe.

The influence of health education through social media on increasing SOP compliance attitudes among midwives

Based on the results of the T-Test, it is known that there is an influence of health education through social media on increasing the attitude of SOP compliance among midwives for a healthy and safe birth process (p -value < 0.05).

Ulya, Iskandar and Asih (2017) also conducted research on the effect of health education on the level of knowledge of midwives' compliance with nursing SOPs which showed an increase from pretest to posttest.

It can be concluded that the increase in research results from pretest to posttest shows that the role of health education is quite large in increasing midwifery staff's compliance with SOPs in the birthing process. If a midwife does not comply with the SOP, then the birth cannot proceed healthily. Therefore, midwives' implementation or compliance with SOPs is an important outcome that influences the success of a health action.

Research conducted by Ulya, Iskandar and Asih (2017) supported by research results which show a p-value of $0.000 < 0.05$. This means that Health Education has the influence to increase the level of compliance regarding nursing SOPs. Research by Andriani et al (2021) reported a p value of $0.001 < 0.05$, which means there is a difference between before and after treatment using social media. In other research conducted by Nurhidayati (2021) stated that there is an influence of providing health education on social media in increasing health workers' knowledge and compliance with SOPs in carrying out their duties.

The influence of health education through social media on increasing PPE knowledge among midwives

In this research, providing health education to health workers, especially midwives, is very important, because with health education, health workers will have increased knowledge of PPE. Based on the research results, it was found that the level of knowledge of midwives after health education had increased, namely 76 respondents (88.4%) had a good level of PPE knowledge and only 2 respondents (2.3%) still had a low level of PPE knowledge. This is in accordance with research conducted by Afandi (2020) Those who reported good knowledge of health workers regarding PPE were 91 respondents (71.7%) and those who had low knowledge were 17 respondents (13.4%).

Good knowledge will influence a person's behavior to behave well too, because a person's knowledge process can be influenced by internal and external factors (Afandi, 2020)¹¹. Increasing the knowledge of health workers cannot actually be separated from providing health education,

but there are still some health workers who have insufficient knowledge due to factors that are approaching old age and lack of knowledge about social media. Based on the results of this research, it is known that there is an influence of health education through social media on midwives' knowledge of PPE.

The influence of health education through social media on increasing PPE compliance attitudes among midwives

Social media is able to convey messages so that there is a change in the knowledge, attitudes and skills of respondents who witness it. This is in line with research conducted by Paramita and Martini (2013) stated that social media is an interesting medium for conveying information because audio-visual is one of the preferred communication methods, for both men and women and for people with low and high education. Other appropriate research is research conducted by Lubis (2016) which shows that there is an increase in the average attitude before and after being given intervention.

According to Budian and Riyanto (2018) states that the factors that influence attitudes are personal experience, the influence of other people who are considered important, the influence of culture, mass media, educational institutions and social institutions and the influence of emotional factors. Apart from that, changes in attitude are basically influenced by factors of knowledge and belief or beliefs obtained from sensory results, one of which is obtained through education or the learning process. A person's attitude can be formed through experience. In this research, it can be seen that the majority of midwives have a working period of between 1 and 5 years (38.27%)

CONCLUSION AND SUGGESTION

Based on the research results, it was found that there is a significant impact and influence between health education through social media on the safety behavior of midwives towards a healthy and safe birth process, so it can be seen that the safety education provided has an impact on aspects of knowledge, attitudes and behavior.

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