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The Effect of the VAKVID E-Booklet (Electronic Booklet of the Covid-19 Vaccine) on Knowledge and Attitude of Understanding the Covid-19 Vaccine

Meutia Zuhra[1*)], Inong Sri Rahayu[2], Aulia Rahmi [3]

[1*)] Program Studi DIII Farmasi, STIKes Muhammadiyah Lhokseumawe
[2, 3] Program Studi Keperawatan, STIKes Muhammadiyah Lhokseumawe

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ABSTRACT

There are many pros and cons to the government's policy regarding the Covid-19 Vaccine for students in schools. Low knowledge and understanding of the Covid-19 vaccine are one of the causes. Socialization and education related to the Covid-19 Vaccine are one of the efforts to support this vaccination program. The purpose of this study is to determine the influence of education using the E-Booklet VAKVID (Electronic Covid-19 Vaccine Booklet) on knowledge and attitudes of Understanding the Covid-19 Vaccine. Pre-Experimental Research with the design of One group pretest-posttest used a purposive sampling technique in sampling as many as 230 students of Madrasah Tsanawiyah (Junior Hogh School) Lhokseumawe City, knowledge and attitudes of understanding the Covid-19 vaccine were measured using questionnaires, analyzed through statistical tests Shapiro Wilk continued with the Wilcoxon test. The data from the study showed that there were differences in knowledge and attitudes of understanding the COVID-19 vaccine before and after education using the VAKVID e-Booklet. The average knowledge pretest score is 5.34±1.398 and the post-test score is 6.93±0.960, while the Attitude pretest score is 15.00±1.884 and the post-test score is 16.33±0.923. The influence of education using the VAKVID E-Booklet method provides a significant difference in knowledge (p = 0.000) and attitudes (p = 0.000) regarding Understanding the Covid-19 Vaccine. Education using the e-Booklet VAKVID method can increase knowledge and attitudes of understanding the Covid-19 vaccine in students.

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Kata kunci:

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**) corresponding author*

Program Studi DIII Farmasi, STIKes Muhammadiyah Lhokseumawe
Jalan Koperasi No.77A, Keude Aceh, Banda Sakti, Kota Lhokseumawe, Aceh, Indonesia, 24351

Email: mzuhraa@gmail.com

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ABSTRAK

Banyak pro dan kontra terhadap kebijakan pemerintah terkait Vaksin Covid-19 untuk siswa di sekolah. Pengetahuan dan sikap pemahaman vaksin Covid-19 yang rendah merupakan salah satu penyebabnya. Sosialisasi dan edukasi terkait Vaksin Covid -19 merupakan salah satu upaya dalam mendukung program vaksinasi ini . Tujuan penelitian ini untuk mengetahui pengaruh edukasi menggunakan metode E-Booklet VAKVID (Elektronik Booklet Vaksin Covid-19) terhadap pengetahuan dan sikap Pemahaman Vaksin Covid-19. Penelitian Pre Eksperimental dengan desain One group pretest-posttest ini menggunakan teknik purposive sampling dalam pengambilan sample sebanyak 230 siswa Madrasah Tsanawiyah Kota Lhokseumawe, pengetahuan dan sikap pemahaman vaksin Covid-19 diukur menggunakan kuesioner, dianalisis melalui uji statistik Shapiro Wilk dilanjutkan uji Wilcoxon.Data hasil penelitian menunjukkan terjadi perbedaan pengetahuan dan sikap pemahaman vaksin Covid-19 sebelum dan sesudah edukasi menggunakan metode e-Booklet VAKVID. Rerata skor pretest pengetahuan adalah 5,34±1,398 dan skor posstest 6.93±0,960, sedangkan skor pretest Sikap adalah 15,00±1,884 dan skor posttest 16,33±0,923. Pengaruh edukasi menggunakan metode E-Booklet VAKVID memberikan perbedaan yang signifikan terhadap pengetahuan (p=0,000) dan sikap (p=0,000) Pemahaman Vaksin Covid-19. Edukasi menggunakan metode e-Booklet VAKVID dapat meningkatkan pengetahuan dan sikap pemahaman vaksin Covid-19 pada siswa.

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INTRODUCTION

On March 11, 2020, the World Health Organization (WHO) declared that Covid-19 had become a worldwide pandemic. Globally, there were 4.170.424 cases of Covid-19 with 287.399 deaths. Meanwhile, the number of Covid-19 cases in Indonesia in June 2020 was 40.400 with a death toll of 2.231. Government policies are still not effective in dealing with the Covid-19 pandemic and most respondents think that there are still many who do not comply with health protocols because they still do not understand and there is still a lack of education about Covid-19 and health protocols.

The high number of morbidity and mortality caused by COVID-19 is due to ignorance of information so we need effective socialization and health promotion efforts so it will be effective prevention. The Indonesian government has made various efforts to stop the spread of SARS-CoV2, one of which is the government's policy for the formation of herd immunity (mass immunity) as the last alternative that can be done to prevent the transmission of Covid-19, but the formation of herd immunity naturally with the transmission of Covid-19 19 that is now happening will not run fast compared to mass immunization through vaccination.

Not to mention that the Covid-19 vaccine for people 12 years and older has been completed, and the Government has made a new policy for the implementation of vaccination for children, following the Presidential Instruction to immediately carry out vaccinations for children 6 to 11 years old. However, there are many pros and cons to government policies related to the Covid-19 vaccine for children 6 to 11 years old, both from the individual children themselves and their parents.

Hoaxes are also one of the causes of the community's negative response to the Covid-19 vaccine, in the study by Arumsari et al (2021) 51.4% of respondents thought that the Covid-19 pandemic was a product of propaganda, conspiracy, and so on and the public was not sure that the government was able to overcome the pandemic. Covid-19 well.

Covid -19 Vaccine is one of the causes of the lack of knowledge and attitudes of children and parents in supporting this vaccination program. Health education and communication from government sources are very important methods of alleviating negative attitudes toward the COVID-19 vaccine. Health education and communication that exists between the government and the community are very important methods to reduce the pros and cons of the COVID-19 vaccine (Abebe et al., 2021)

The problems that occur above cause the continuity of the Covid-19 vaccine to be less than optimal. Efforts to optimize the continuity of the Covid-19 vaccine for children 6-11 years old can also be carried out in several fields, one of which is Education by Health Workers. The pharmacist profession also has a role in this, namely carrying out its obligations in Counseling, Information, and Education.

Health Education by using media Booklets and audiovisuals can increase Knowledge and can also improve the attitude of pregnant women toward pregnancy danger signs (Widuri et al., 2021). Booklet has limited in scope, is simply structured, and focused on one purpose compared to the book. The booklet can be modified into an e-Booklet (electronic booklet), e-booklet is more simple to use because the electronic document can be read and shared using the software on a computer or a smartphone (French, 2011). E-booklet media has also been shown to significantly increase knowledge (Setyawati & Herlambang, 2015). Now almost everyone already has a smartphone, and it is also very dependent on smartphones. So the use of e-booklet media is the right choice to provide health education.

Based on the background and problems above, it can be formulated whether education using e-Booklet media can affect the knowledge and attitude of understanding the Covid-19 Vaccine in the community, especially students of Madrasah Tsanawiyah which is one of the main objectives of the current Covid-19 Vaccine.

METHOD

The type of research used in this study is a pre-experiment that aims to see the influence of the intervention given to respondents. This research was carried out from June 12 to June 22, 2022, at the Tsanawiyah I Madrasah in Lhokseumawe City. The design of this study uses a one-group pretest and posttest approach. The population in this study was all students of class XI Madrasah Tsanawiyah I Lhokseumawe City in 2022, Sample was 230 students who had complied with the inclusion criteria. The sample selection technique used is purposive sampling, with inclusion criteria, yang follows the research at each stage, has an account on the WhatsApp application, and gets permission directly from parents.

Data collection was carried out in collaboration with teachers of Madrasah Tsanawiyah I Lhokseumawe City, especially the homeroom teacher. Before starting the research, the researcher explains the purpose of the research and distributes informed consent sheets, as evidence of approval following the research. The researcher then joins the WhatsApp group of the class to be able to communicate with the sample.

Research Instruments

The questionnaire used in this study is a questionnaire that was instructed from the study by Abebe et al., (2021) The reliability of variables such as awareness, attitude, and acceptance toward COVID-19 was determined using Cronbach's alpha coefficient. The Cronbach's alpha value for questions about knowledge and attitude toward COVID-19 were found to be 0.761 and 0.832 respectively. According to the rule of Griethuijsen criteria, the range of Cronbach's alpha from 0.6 to 0.7 is considered a sufficient and accurate measurement. As a result, the item used to evaluate the knowledge and attitude toward the COVID-19 vaccine was scientifically acceptable. The questionnaire consists of 14 questions, the knowledge section consists of 8 questions and the attitude section consists of 6 questions.

The knowledge section consists of 7 positive questions and 1 negative question, the answer measurement uses the Guttman scale where the revelation is true and false, if the positive question answers correctly then it is given a value of 1 and if the answer is wrong it is given a value of 0, and vice versa in the negative question.

While the VAKVID e-Booklet was compiled by researchers, the material in the e-booklet was compiled based on the results of the Need Assessment conducted on research subjects and guided by the Covid-19 Vaccine Booklet and KIPI(Adverse Events after Immunization) by UNICEF (2021) and the Pocket Book of Questions and Answers Regarding Covid-19 Vaccination by Indonesian Ministry of Health (2021). Consists of several important points related to the Covid-19 Vaccine, (1) What is Covid-19?

(2) How Can You Get Covid-19 (3) What is a Vaccine? (4) How vaccines work (5) Dose of Covid-19 vaccine (6) Targets and implementation of Covid-19 vaccination (7) Covid-19 vaccine circulating in Indonesia (8) Let's get to know KIPI.

Based on some literature related to the e-Booklet used in this study, a content validity test has been carried out. There is no standard technique for testing content validity. Researchers can use a qualitative, quantitative approach, or a combination of both, a statistical technique commonly used in testing content validity in the last ten years is the content validity index (CVI) which is based on the level of expert agreement on items (Hendryadi, 2017). In validating the contents of this research booklet, expert judgment was used. This technique requires confirmation by a certain number of experts, which shows that the items of the instrument and all instruments have content validity. This purpose will involve several experts. The results of the observation of the value by the expert for each item in the relevant category (values 3 and 4), from the overall obtained I-CVI of 1, with the relevant proportion of each expert of 1.00, so it can be concluded that the VAKVID e-booklet is relevant.

Data Collection

The study was carried out in three stages, first, the research subjects were given a questionnaire during the pretest as a tool to measure their level of knowledge and understanding of the Covid-19 vaccine. Questionnaire data was collected using Google Forms.

The second stage is interventions were given between the pretest and post-test, the intervention in this study is health education or education using the VAKVID e-Booklet media, the dissemination of the VAKVID e-Booklet is carried out after collecting pretest data related to the knowledge and attitudes of the research sub-booklet. The VAKVID e-Booklet is an electronic PDF document distributed using Whatsaap Group, the research subject has been given directions before the research begins regarding how to obtain and use and the time given to read the VAKVID e-Booklet.

The last stage of the posttest used the same questionnaire as the pretest. data collection using a Google Form that is different from the pretest is carried out after the intervention stage is completed.

Data Analysis

The analysis of research data carried out is a univariate analysis aimed at determining the frequency distribution of the observed sub-variables so that they can find out the description and variables studied using the Shapiro-Wilk test. Continued with bivariate analysis, the distribution results in this study were not distributed normally, so the Wilcoxon Sign Test was used.

RESULTS AND DISCUSSION

This research was conducted in Madrasah Tsanawiyah, Lhokseumawe City, Aceh. Respondents amounted to 230 people, all respondent data is primary data, namely data obtained directly from sources using a questionnaire method that is distributed with an online form. Characteristics of respondents in this study were described based on gender, parental education, Covid -19 vaccination status. Questionnaires were distributed in online google form format. The questions on the questionnaire have passed the validity and reliability test using SPSS v.26. The total questions in this study were 15 questions consisting of 8 questions about knowledge and 6 questions about attitudes.

Table 1. Frequency distribution of demographic characteristics of research subjects (n=230)

No		Subject Characteristics	n (%)
1	Gender	Man	92(40%)
		Woman	138(60%)
2	Father's Education	Compulsory Education	135(58.7 %)
		higher education	95(41.3 %)
3	Mother's Education	Compulsory Education	110(47.8 %)
		higher education	120(52,2 %)
4	Covid-19 Vaccination Status	Already vaccinated	122(53.0 %)
		Not yet vaccinated	108(47.0 %)

Characteristics of Respondents

The characteristics of respondents in this study describe the diversity of respondents based on gender, parental educational background, and vaccination status. Based on Table 1, the results of the analysis show that the distribution of research subjects by sex is dominated by women, as many as 138 people (60%), women are more likely to not easily receive vaccines, but overall after vaccination women are faster to develop a protective antibody response that is resistant. longer than men, but this does not reduce the likelihood of women experiencing side effects from the vaccine (Ciarambino et al., 2021).

The education of the father is dominated by compulsory education 135 (58.7 %) and the education of the mother is dominated by education of over 120 (52.2%) while the vaccination status of the Covid-19 vaccine is 122 (53.0%) people have been vaccinated. The definition of compulsory education is having taken elementary school (elementary school), junior high school (junior high school), and high school (high school), while higher education is having studied at a university. People with low levels of education have a bad attitude towards the COVID-19 vaccine program (Paul et al., 2021).

The vaccination status of 230 respondents has dominated by 122 (53.0%) respondents who have been vaccinated against COVID-19, this is still not according to the vaccination target set (Kominfo, 2021).

Knowledge of Respondents' Covid-19 Understanding before and after being given the VAKVID *e-Booklet*

The respondent's knowledge before being given intervention through the VAKVID E-Booklet was 5.34 (enough) with an SD (standard deviation) of 1.398, a minimum value of 1, and a maximum value of 8 (table 2).

Meanwhile, the average knowledge of respondents after being given an intervention through the VAKVID E-Booklet was 6.93 (Good) with an SD of 0.960 with a minimum score of 4 and a maximum score of 8 (table 2). This is in line with the research of Wulandari et al. (2020) after being given health education using the *Booklet media*, student knowledge increased about HIV/AIDS seen from the *post-test results* with more correct answers, some questions that were initially answered incorrectly during the *pretest* became correct during the *posttest.*

The questionnaire in this study contained 8 knowledge questions and 6 attitude questions regarding the understanding of the Covid-19 vaccine. The smallest correct answer is the understanding of whether the Covid-19 Vaccine can be given to someone who is infected with Covid-19 25.7%. Respondents' correct answers during the posttest (after reading the VAKVID E-Booklet) overall increased, especially in the sixth question with a percentage of 71.3%. A person who is infected with COVID-19 is not recommended to vaccinate, vaccination is carried out 6 months after confirmed recovery from Covid-19 infection (WHO, 2022)

Table. 2 Level of Knowledge and Attitude of Understanding the Covid-19 Vaccine

Variable	N	mean	SD	Min	Max
Knowledge					
Pretest	230	5.34	1.398	1	8
Posttest	230	6.93	0.960	4	8
Attitude					
Pretest	230	15.00	1,884	9	18
Posttest	230	16.33	0.923	11	17

Respondents' Attitude of Understanding Covid-19 before and after being given the VAKVID *e-Booklet*

Respondents' attitude toward understanding the Covid-19 vaccine before being given intervention in the form of education using the VAKVID *e-Booklet* media with an average score of 15.00 (Good) with an SD of 1,884, a minimum score of 9, and a maximum of 18 (table 2), while the average score after being given the intervention was 16.33 (Good) with a minimum score of 11 and a maximum of 17 (table.2), the average score increased.

This is in line with the score generated on the knowledge variable, it is known that good knowledge about Covid-19 is directly related to a positive attitude towards Covid-19, in the study of Giao et al. (2020) someone who has knowledge and understanding of Covid-19 will be more alert to Covid-19, they will continue to dig up information related to Covid-19 so they know how to deal with Covid-19, and vice versa someone who does not have knowledge and understanding of Covid-19 Covid-19 is more relaxed and not interested in Covid-19.

The distribution of correct answers to the COVID-19 understanding attitude question got the highest percentage of correct answers to the question " You and your family must get the Covid-19 Vaccine " 161 (70.0 %), this is not in line with vaccination status data only 122 (53, 0%) of respondents who have received the Covid-19 vaccine. While the lowest percentage on the question " Covid -19 vaccines produced by Europe and America are safer than those made in other countries" is 13 (5.7%). The lie that happened to the vaccine brand Sinovac was accused of being a weak vaccine and the vaccine was intended for animals, this happened on Twitter in a video recorded by a Chinese person (Sulistyanto et al., 2021). Therefore, 229 (99.6 %) respondents still believe the hoaxes that occurred.

Table.3 Distribution of correct answers *pretest* and *posttest* (n:230)

No	Question	Category	Number of participants who answered correctly	
			Pretest (%)	Posttest (%)
1	Have you heard of the Covid-19 Vaccine?	Knowledge	230 (100%)	230 (100%)
2	Is the Covid-19 Vaccine Safe?		187 (81.3 %)	222 (96.5 %)
3	Can the Covid-19 Vaccine protect you from Covid-19?		160 (69.6 %)	224 (97.4)
4	Can we get the Covid-19 vaccine after getting the Covid-19 vaccine?		96 (41.7 %)	129 (56.1 %)
5	Can the Covid-19 Vaccine be given to someone who has been infected with Covid-19?		139 (60.4 %)	168 (73.0 %)
6	Can the Covid-19 vaccine be given to someone who is infected with Covid-19?		59 (25.7 %)	164 (71.3 %)
7	What are the side effects that often occur after giving the Covid-19 Vaccine?		193 (83.9 %)	229 (99.1 %)
8	How many doses of the Covid-19 vaccine should be given?		165(71.7 %)	228 (99.1 %)
9	The use of the Covid-19 vaccine is safe	Attitude	137 (59.6 %)	168 (73.0 %)
10	The covid-19 vaccine is very important for you		140 (60.9 %)	211 (91.7 %)
11	Covid-19 vaccines produced by Europe and America are safer than those made in other countries		13 (5.7 %)	229 (99.6 %)
12	You and your family must get the Covid-19 Vaccine		161 (70.0 %)	230 (100%)
13	It is impossible to reduce the incidence of Covid-19 without vaccination		142 (61.7 %)	200 (87.0 %)
14	The covid-19 vaccine must be distributed fairly to all of us		205 (89.1 %)	208 (90.4 %)

The effect of the VAKVID *e-Booklet* on the respondents' knowledge of understanding the Covid-19 vaccine.

Based on Table 4, there are differences in the knowledge of the respondent's understanding of the COVID-19 vaccine between before and after education using the VAKVID *e-Booklet* as indicated by the Mean±SD pretest value of 5.34 ±1.398 which increased to 6.93±0.960 during the posttest. In addition, from the results of statistical tests using the Wilcoxon Signed Rank test, the p-value value is 0.000 < 0.05, then there is a significant difference in the knowledge of the respondent's understanding of the Covid-19 vaccine so that there is an effect of education using the VAKVID *e* -booklet media on students. MTsn I Lhokseumawe City.

In line with the research of Ayed et al (2021), the knowledge of students increased after being given intervention in the form of education about Covid-19 within three months (p-value <0.000). Health education delivered directly by health workers resulted in a more effective increase in knowledge for students at school, as evidenced in Geetha Priya et al's research (2019) that health education delivered directly by dentists had a positive influence on students, knowledge about oral and dental health. increases and they brush their teeth more often or diligently.

e-Booklet VAKVID is prepared directly by health workers, namely pharmacists and nurses, so that it has a great opportunity in presenting health information, especially understanding the Covid-19 vaccine to its readers. In addition, the interventions carried out in this study were directly assisted by experts.

Table 4. The influence of the VAKVID *e-Booklet* media on the knowledge and understanding of the COVID-19 vaccine of respondents (n=230)

Variable	Pretest (Mean±SD)	Posttest (Mean±SD)	*Mean Different*	*Z*	*P-Value*
Knowledge	5.34±1.398	6.93±0.960	1.59	-11,320	0.000
Attitude	15.00±1.884	16.33±0.923	1.33	-10,350	0.000

The effect of the VAKVID *e-Booklet* on the respondent's understanding of the COVID-19 vaccine.

The difference in the attitudes of respondents between before and after education using the VAKVID e-booklet as shown from the Mean±SD pretest 15.00 ±1.884 increased to 16.33±0.923 at the posttest. In addition, from the results of statistical tests using the Wilcoxon Signed Rank test, the p-value is 0.000 < 0.05. Based on the data in Table 4, shows that education using the VAKVID e-Booklet media has a significant influence on the attitude of understanding the Covid-19 vaccine in students of MTsN I Lhokseumawe City.

Health education has an important role in the prevention and control of infectious diseases, but how the procedure and presentation of health education are carried out by experts is one of the important factors and challenges that will determine the success of health education (Li et al., 2020). The implementation of health education can use several supporting media, one of which is a booklet.

The results of the average percentage of respondents' responses in using *booklets* as learning media showed positive responses with the average acquisition of each aspect, namely the affective aspect of 77.59 %, the cognitive aspect of 81.32%, and the conative aspect of 83.19%. . The average of the three aspects is 80.70% which indicates very high criteria (Panjaitan et al., 2021).

The opinion of the researcher is based on the results of the discussion above that education using the VAKVID *e-Booklet* media can be used as a method of implementing health education in schools. Increased knowledge of the understanding of the Covid-19 vaccine in students (p-value 0.000 < 0.05) and the attitude to understanding the Covid-19 vaccine (p-value 0.000 <0.05) proves that education using the VAKVID *e-Booklet* media affects knowledge and attitudes understanding of the Covid-19 vaccine.

CONCLUSIONS AND RECOMMENDATION

After researching students of MTsN I Lhokseumawe City, the Knowledge Value of understanding the Covid-19 vaccine between respondents before and after education using the VAKVID *e-booklet* as indicated by the Mean±SD pretest value of 5.34 ± 1.398 increased to 6.93± 0,960 at posttest. Meanwhile, the respondent's attitude value between before and after education using the VAKVID e-booklet as indicated by the Mean±SD pretest of 15.00 ±1.884 increased to 16.33±0.923 at the posttest. In addition, from the results of statistical tests using the Wilcoxon Signed Rank test, the p-value is 0.000 < 0.05.

So it can be concluded that there is a significant effect of education using the VAKVID *e-Booklet* media on knowledge and understanding of the COVID-19 vaccine. It is recommended that health education in schools be carried out regularly by experts, utilizing the school to collaborate with health workers so that students get valid and guaranteed health education.

DECLARATIONS

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Conflict of Interest Statement

This article has no involvement or involvement with any outside parties and this article is purely from the sources listed in the bibliography and does not contain plagiarism from any journal articles.

Ethics Approval

The research permit was granted by the research agency STIKes Muhammadyah Lhokseumawe and the research location partner of MTsN I Lhokseumawe City.

Consent to participate

Respondents who participated in this study have stated that they are willing to participate in collective research which is stated with the approval of the leadership at the research location.

Consent for Publication

The author has agreed to publish this article in the Majalah Kesehatan Indonesia journal accredited by Sinta 4, as one of the outputs of the Beginner Lecturer Research Grant organized by the Ministry of Education, Culture, Research, and Technology (Hibah PDP oleh Kementerian Pendidikan, Kebudayaan, Riset dan Teknologi).

Availability of data and materials

Data and materials from the research will be accessible to readers after contacting the author.

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