

THE INFLUENCE OF EDUCATION USING VIRTUAL AUDIOVISUAL MEDIA ON PREGNANT WOMEN'S KNOWLEDGE ABOUT COVID 19 PREVENTION

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ABSTRACT

The emergence of coronavirus infections has resulted in an epidemic that is rapidly developing into one of the most significant public health threats in recent times. Maternal health services cannot be separated from being affected both in terms of access and quality. Pregnant women must be aware of the risk of contracting COVID-19 because have higher risk of the morbidity and mortality rates. The purpose of this study is to analyze the influence of online counseling on pregnant women's knowledge about COVID-19 prevention. This study used a quasi-experimental design with one group pretest-posttest design. The research location is in the Banjar Regency and Banjarbaru. The population is all pregnant women who visited the Poskesdes in Banjar Regency and the PMB in Banjarbaru as many as 66 people. Counseling is done online with audiovisual media. Samples was 46 people who were taken by purposive sampling. The independent variable is counseling about COVID-19 prevention and the dependent is knowledge. The method of data analysis is the Wilcoxon test. The intervention was carried out using google meet. Pre and post-tests were carried out to measure knowledge. The results of this study were that there was a significant difference in the knowledge of pregnant women before and after receiving counseling ($df=46$, $p=0.0001$). The conclusion of this study is counseling using audiovisuals can increase pregnant women's knowledge about the prevention of COVID-19. Education about COVID-19 prevention can virtually be implemented in comprehensive maternal and child health services as an effort to prevent and control COVID-19.

Keywords: COVID-19, education, knowledge, virtual

ABSTRAK

Munculnya infeksi coronavirus telah menghasilkan epidemi yang dengan cepat berkembang menjadi salah satu ancaman kesehatan masyarakat yang paling signifikan belakangan ini. Saat ini, layanan kesehatan ibu tidak terlepas terkena dampak baik secara akses maupun kualitas. Ibu hamil harus sadar akan risiko terjangkit COVID-19 ini karena mempunyai risiko kesakitan dan kematian yang lebih besar. Tujuan penelitian ini adalah untuk menganalisis pengaruh penyuluhan secara daring terhadap pengetahuan ibu hamil tentang pencegahan COVID-19. Penelitian ini menggunakan rancangan quasi eksperimental dengan *rancangan one group pretest-posttest*. Lokasi penelitian adalah di Poskesdes Kabupaten Banjar dan Praktik Bidan Mandiri Banjarbaru. Populasi adalah semua ibu hamil yang berkunjung ke Poskesdes Kabupaten Banjar dan Praktik Bidan Mandiri Banjarbaru sebanyak 66 orang. Penyuluhan dilakukan secara daring dengan media audiovisual. Jumlah sampel adalah 46 orang yang diambil dengan teknik *purposive sampling*. Variabel independen adalah penyuluhan tentang pencegahan COVID-19 dan dependen adalah pengetahuan. Metode analisis data adalah dengan uji Wilcoxon karena data berdistribusi tidak normal. Intervensi dilakukan dengan menggunakan media google meet dan dilakukan pre dan post test untuk mengukur pengetahuan. Hasil penelitian ini adalah terdapat perbedaan yang signifikan ada pengetahuan ibu hamil sebelum dan sesudah mendapat penyuluhan ($df= 45$, $p=0,0001$). Kesimpulan pada penelitian ini adalah penyuluhan menggunakan audiovisual dapat meningkatkan pengetahuan hamil tentang pencegahan COVID-19. Diharapkan edukasi tentang pencegahan COVID-19 secara virtual dapat diimplementasikan pada pelayanan Kesehatan Ibu dan Anak secara menyeluruh.sebagai upaya pencegahan dan penanggulangan COVID-19.

Kata Kunci : COVID-19, penyuluhan, pengetahuan, virtual

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Introduction

The emergence of a viral infection that occurred in China in December 2019 has succeeded in becoming a very fast-growing epidemic and has recently been one of the greatest and most significant threats to health to society. The newly emerged coronavirus isolated in China in early January 2020, originally called as 2019-nCoV and later called SARS-CoV-2—the disease it causes has been called COVID-19. On March 11, 2020, WHO declared that COVID-19 is a worldwide pandemic. In Indonesia, the first case of COVID-19 was reported on March 2, 2020, which later expanded to almost all provinces in Indonesia. The infections that arise have been shown to have an important impact on pregnant women and their fetuses.^{1,2} Currently, with the outbreak of Coronavirus disease 2019 (COVID-19), Health services for pregnant women that cannot be separated from being affected of access and quality. COVID-19 is a disease caused by a virus in the Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-COV2).

The Government of the Republic of Indonesia will immediately follow up with policies to prevent a virus that spreads very fast. This includes physical restriction interventions, such as Large-Scale Social Restrictions (PSBB), significant reductions in international and domestic travel, bans on gatherings, and closure of schools, factories, restaurants, and public places. These regulations have an impact on health services. At the puskesmas level, health services reported the disruption of several services, namely Family Planning (KB), immunization, IMCI, and HIV prevention services, namely PMTCT, as well as maternal and child health routine services.³

The provision of maternal services during the pandemic needs to be a concern to avoid an increase in maternal morbidity and mortality, especially when there are restrictions on maternal health services. For example, pregnant mothers who lazy to go to the first health center or other health care facilities out of fear of being infected; any recommendations for postponing pregnancy check-ups and pregnant women class, and the unpreparedness of services in terms of infrastructure and personnel, including personal protective equipment used for examinations.⁴ The maternal of mortality rate increased again to 359 per 100,000 live births. For MMR, it can be said that the decline is on its way (continuing to decrease) and the 2012 IHDS shows the figure of 32/1,000LB (2012 IHDS). And in 2015, based on 2015 SUPAS data, both MMR and IMR showed a decline (MMR 305/100,000 LB; IMR 22.23/1000 LB).^{5,6}

However, the current COVID-19 pandemic has had an impact on efforts to reduce MMR and IMR, specifically the reduced availability of Maternal and Children Health (KIA) and contraceptive service (KB) services, reduced access to KIA and KB services, lack of appropriate services, as needed comprehensive and increased risk of infection in health workers. During Ebola outbreak in West Africa (2014-2016), the use of maternal and reproductive health services

decreased so much that maternal and newborn deaths were indirectly caused by the epidemic were more than deaths directly caused by Ebola infection itself. A study supported by the Health Policy+ program estimated an increase in total maternals and newborns mortality rates in India, Indonesia, Nigeria and Pakistan by up to 31% if disruptions to MCH services were not managed effectively.⁷

In South Kalimantan, the number of positive confirmed cases is increasing every day. Banjar Regency and Banjarbaru City are the Regency/City with the most cases in South Kalimantan after Banjarmasin City. Data from the Banjar District Health Office noted that there were 1020 pregnancies. Meanwhile, in Banjarbaru City, it has been reported that 2 newborns have been confirmed positive.

Pregnant mothers are listed as groups that are vulnerable to the risk of contracting COVID-19 because during pregnancy there are physiological changes that result in a partial decrease in immunity (Liang & Acharya, 2020) and can cause serious impacts for pregnant women. Information about COVID-19 is still very limited, including data on pregnant mothers who confirmed COVID-19 positive, but it is not possible to conclude in Indonesia.^{8,9}

To date, there are no specific recommendations for the treatment of pregnant women with Covid-19 because knowledge about Covid-19 infection in relation with pregnancy and the fetus is still limited. Based on limited data and several cases in the previous handling of the Coronavirus (SARS-CoV and MERS-CoV) and some active Covid-19 cases, it is believed that pregnant women have a higher risk of being infected and suffering from serious illness, morbidity and mortality compared to the general public. A common side effect on the fetus, which can include preterm labor, has also been reported in pregnant women infected with COVID-19.⁵ Pregnant and lactating mothers are included in the category that is vulnerable to infection with the Coronavirus. One reason is that they have low immunity due to hormonal changes during pregnancy and breastfeeding.

Transmission of COVID-19 spreads by droplet and direct contact. There is no vaccine to prevent COVID-19 infection at this time. The best way is to do prevention by taking steps to prevent transmission in daily life practices.⁵ Pregnant and lactating mothers need to know how to properly protect themselves during this pandemic. According to Smith and Judd in times of crisis people should be well informed, so that they can know what individual precautions they should take and how they can cope with the consequences.¹⁰ During the pandemic, online education is the way that can be used as media to provide information about health and nutrition. One of the media that can be used for online education is google meet. Google meet is a video conference application that has a unique and functional interface with a light and fast size, promoting efficient, user-friendly management that all participants can follow.^{11,12}

Prasetyo's research found that online education was proven to be effective during the pandemic COVID-19 increasing knowledge.¹³ Sabarudin's research also shows there is important

difference in knowledge between before being given education with video media online and leaflets and after it.¹⁴ For pregnant women who need basic antenatal care and mental health consultation online antenatal care can be a useful alternative.¹⁵ The aim of this study was to analyze the differences between pregnant women before and after receiving education about the prevention of COVID-19 with virtual audiovisual media.

Method

This research was a quasi-experimental research with one group pretest-posttest design. This research was conducted at Poskesdes Indrasari in Banjar Regency and Lasmitasari Midwife Clinic in Banjarbaru City in September 2020. The population is all pregnant women who visited the Poskesdes in Banjar Regency and the Midwives clinic in Banjarbaru as many as 66 people. The research sample was pregnant women who met the inclusion and exclusion criteria as many as 46 people were carried out by purposive sampling. The inclusion criteria of this study were pregnant women who visited Poskesdes Indrasari, Banjar Regency and Lasmitasari midwife clinic in Banjarbaru City, had a WhatsApp account and were able to access video conference. Pregnant women are taken based on data from Poskesdes and Mandiri Midwife Practice, then invited to follow education using google meet on a predetermined date.

The instrument in this study was a questionnaire that amounted to 20 questions. Respondents filled out the pretest questionnaire using google form for 10 minutes before education and were asked to activate the video so that it could be supervised by researchers. After that, respondents were given virtual education using the Google meet conference application with power point and video presentation media. The method used is lecture and discussion. The material presented was about the prevention of COVID-19 and Antenatal Care services during the pandemic for 30 minutes each. Then proceed with discussion with respondents. After the education was complete, the respondents filled out the posttest questionnaire using google form for 10 minutes and were asked to activate the video so that it could be supervised by researchers. The independent variable is education about COVID-19 prevention and the dependent variable is knowledge of pregnant women about COVID-19 prevention. Knowledge is divided into 2 categories: good (if the score \geq mean) and less (if the score $<$ mean). The data used was primary data obtained from filling out a questionnaire using Google form. The data were tested for normality with the Saphiro-Wilk test. The test used was Wilcoxon Rank Signed test since the data is not normally distributed ($p=0,001$).

Results

Table 1. Knowledge of Respondents

Knowledge	Pre-test		Post-test	
	n	%	n	%
Good	43	93,5	46	100
Less	3	6,5	0	0

Based on the table above shows that knowledge before education and after education through audio-visual, in the data before (when the pre-test was carried out) it was found that 6.5% of respondents had less knowledge and after education that all respondents (100%) with a total of 46 people. categorized as good.

Table 2. Result of Pre-test and Post-test

No.	Questions	Pre-test		Post-test	
		Correct answer	%	Correct answer	%
1	What can transmit COVID-19?	46	100	46	100
2	Which close contacts can transmit COVID-19?	40	87	46	100
3	Which clean and healthy lifestyle can prevent the COVID-19 spread?	44	95.7	46	100
4	What is the recommended distance between individuals to prevent the spread of COVID-19?	39	84.8	42	91.3
5	How to put on a good and correct mask?	45	97.8	46	100
6	Which part of the room should be cleaned frequently to reduce the spread of COVID-19?	45	97.8	45	97.8
7	What actions are taken by pregnant women during the pandemic in evaluating their pregnancy?	31	67.4	44	95.7
8	How to prepare for childbirth during a pandemic?	45	97.8	45	97.8
9	What should couples of childbearing age do during a pandemic?	39	84.8	43	93.5
10	What is the general prevention of COVID-19 in pregnant/maternity/postpartum women?	37	80.4	40	87
11	How should I do a pregnancy test during a pandemic?	39	84.8	46	100
12	How is the health service for infants and toddlers in positive PSBB/covid areas?	7	15.2	20	43.5
13	What pregnancy checks are recommended during a pandemic?	29	63	37	80.4
14	What conditions make pregnant women able to get health facilities during a pandemic?	28	60.9	39	84.8
15	What examinations should be done in preparation for giving birth during a pandemic?	39	84.8	45	97.8
16	Where is the location of the delivery of pregnant women with a positive Covid status?	31	67.4	41	89.1
17	What is the method of postpartum visits during the pandemic?	33	71.7	35	76.1
18	What is the special treatment for babies born from positive for COVID-19 mothers?	27	58.7	33	71.7
19	How do mothers who are positive for COVID-19 breastfeed?	34	73.9	38	82.6
20	What is the method of visiting neonates during a pandemic?	34	73.9	37	80.4

Based on 2nd table, it showed that before the intervention was carried out, most of the respondents did not really understand how the health services for infants and toddlers in the Large-

Scale Social Restrictions (PSBB)/ positive covid-19 area were, how is a good ANC was during the pandemic, the condition of pregnant women who received health facilities and how special treatment was for the babies who were born from mothers who were Covid-19 positive, then after the intervention, the percentage increased.

Table 3. Differences in Knowledge of Pregnant Women Before and After Health Education

Variable	Mean	n	Standard Deviation	Standard Error Mean	P-Value
Knowledge					
Pre-test	74,35	46	15,442	2,277	0,0001
Post-test	88,48	46	10,267	1,514	

*) Wilcoxon test

Based on the Wilcoxon test table above, it is known that the value of sig. 0.0001 < 0.05 that means there is a meaningful difference in knowledge between before education and after the education intervention regarding Covid-19 prevention.

Discussion

Based on the results of the research, after the intervention/treatment was given in the form of education through the Google Meet Video Conference, it was seen that there was an increase in knowledge scores with significant results. One of the ways to increase knowledge is through education and during this pandemic, online education is an effective way to do. Efforts can be made to provide knowledge to the wider community regarding the steps to prevent COVID-19, one of which is through online education. Online education can support the learning process as a formal thing by using technology.¹⁶ Distance learning processes and methods have become a new habit that is able to provide summaries via a computer screen or smartphone.^{14,17}

The results of this study showed increased knowledge after being given education interventions. The results of the analysis using the Wilcoxon test showed that there were differences in knowledge before and after education intervention of regarding COVID-19 prevention ($p = 0.0001$). However, knowledge of pregnant women who is still lacking are about health service for infants and toddlers in positive PSBB/covid areas, the method of postpartum visits during the pandemic, and the special treatment for babies born from positive for COVID-19 mothers.

The results of this research are in the same line with the research of Yulianti (2020) where the statistical test results with paired t-test There is a difference in the mean knowledge. pretest with posttest in the intervention group, In the control group, there is no difference in the mean knowledge pretest with posttest. It means that there is an online educational influence toward health about COVID-19 prevention neonatal maternal to maternal pregnant knowledge.¹⁸ Aritonang et al (2020) showed that there is an increase in knowledge and understanding of

pregnant women in prevention efforts after education health COVID-19.⁹ Media types are namely audio, visual, audiovisual, interactive multimedia, e-learning and reality media.¹⁹ Media education is carried out by adhering to the principle that through the senses one can receive and capture knowledge. The more senses used to receive and capture existing information, more information will be obtainable. Delivery of nutrition education using visual messages such as pictures will be easier to embed instead of using words; it is more effective to use any media that display images.²⁰

Based on the research of Mawaddah (2020), results of the analysis conducted using wilcoxon T-Test obtained p value of 0.001, there is an influence of health education on the level of knowledge of pregnant women about COVID-19.²¹ Attractive media will provide confidence so that effective and psychomotor cognitive changes can be accelerated.^{11, 20} Audiovisual media is indeed considered capable of providing a clearer and more interesting picture as a medium for conveying health education messages. Where is considered capable of conveying the message contained in the media well to the audience.²²

Health education with a virtual model is a necessity because the internet has become a necessity in the last decade. Advances in communication and information technology can be used to improve the standard of human life, including in the health sector. The training model with virtual classes has been proven to be effective in increasing knowledge and skills of maternal and child health management in India as well as increasing satisfaction. Several similar studies also prove that the use of internet technology in social networking is effective in increasing knowledge, attitudes, perceptions, awareness and compliance in health. These interactions increase beliefs and self-concept in behaviors that ultimately affect attitudes, including health care attitudes and behavior there are differences how to practice to prevent high-risk pregnancies of pregnant women between the intervention group and the control group by using virtual method.²³

The research results of Wu et al. Shows those health care efforts for pregnant women online limited the potential risks of infection among susceptible people during the COVID-19 pandemic and reduced unnecessary hospital visits. Efforts to apply online care have the potential to generate many innovative and revolutionize antenatal care services both in China and globally. It will contribute to a wider reduction in maternal morbidity and mortality. Introducing globally an online antenatal care program is tending to have an economy benefits for both the healthcare and for women's energy, time, and cost. This can improve maternal and reproductive health services as well as family life as a whole.¹⁵

According to Smith and Judd in Broucke (2020) regarding Covid-19, there are officials and unofficial websites that have a lot of available information that are constantly updated and recommended as well as through news media covering the situation in a matter of hours. The bombardment of well-intentioned communications, however, can lead to confusion. Therefore, the

coordination between the health sector and other sectors is the necessary key in the pandemic response.¹⁰

After the intervention, the percentage of respondents' knowledge about how health services for infants and toddlers in the Large-Scale Social Restrictions (PSBB)/ positive covid-19, how good ANC is during the pandemic, the condition of pregnant women who receive health facilities and how special treatment is for babies born from mothers who confirmed and positive for Covid-19, increased. This shows that audio-visual media (Google Meet Video Conference) it is effective as an online education medium. The existence pandemic of COVID-19 has challenged the health care proxy model to continue to change, along with the available supporting technology given the economic pressures and human resources available to provide health services. The use of remote consulting is driven by the need to provide cost-effective, efficient, timely health services to people in metropolitan, rural and remote areas. Technology is a means of care, not a substitute for care or information.²⁴

According to Machfoedz (2009), human five senses transmits the knowledge to the brain are humans' eyes (about 5% to 87%), while 13-25% are obtained or distributed through other senses so that the more five senses are used, the clearer the knowledge that will be obtained. Audiovisual is one of the media that presents information or messages through the five senses of hearing and sight. Media as props are used in order or aim to facilitate the delivery of messages. Props are arranged based on the principle that knowledge that exists in humans is received or captured through the five senses.²⁵

This also agrees with the research conducted by Winarni (2016) that audio-visual education in the form of lectures is more effective because the lecturers are more controlling and can find out more quickly to what extent the students' ability to understand the material being taught. In the audio-visual method, students are required to learn independently so that they are no longer centered on the instructor but are student-centered so that students need high abstraction skills. In the delivery of guidance or education, the application of audio-visual cannot stand alone so it still requires methods or approaches such as discussions, lectures and so on.²⁶

The researcher argues that education through audio-visual has a significant effect on knowledge. This is because before being given education they have not received new information that they will know while after being given education they have received new information. So that education about the prevention of COVID-19 is needed, especially for pregnant women and is expected to have the attitude and behavior to always apply health protocols. The use of online media is basically meant to help activities outreach more effective achieve goals and be efficient in terms of times, energies, and costs.^{13,27}

The increased knowledge of respondents after intervention through education on the google meet platform made respondents know more about how to carry out a good antenatal care

visit (ANC) during a pandemic where antenatal checks during pregnancy are recommended at least 6 times face-to-face regardless of the status of the area's covid-19 zone, and telemedicine examinations can be added as needed. A minimum of direct physical antenatal consultations are carried out 6 times for pregnant women who had low-risk, but the frequency of direct consultations needs to be adjusted in high-risk cases. If necessary, an antenatal consultation can be carried out via telemedicine (phone/video call) outside the predetermined schedule. Respondents also understand more about special treatments for babies born from mothers who confirmed positive for Covid-19 where newborns from mothers with confirmed or suspected by COVID-19 are bathed immediately to reduce the risk of infection and infants from mothers who confirmed or suspected COVID-19 are treated in the ward specific isolation apart from his mother. Health services for infants in Large-Scale Social Restrictions (PSBB) areas are carried out through communication media/online, both for monitoring and education. If absolutely necessary, home visits by health personnel can be carried out, preceded by an appointment and implementing health protocols, both for health workers and for mothers and families.⁵

Conclusions

The research concludes there's a difference between before and after of pregnant women knowledge by receiving education about preventing Covid-19. This virtual audiovisual media can be recommended as an alternative method of health education during the pandemic so that people can receive correct information about Covid-19 prevention. It is hoped that education about COVID-19 prevention can virtually be implemented in comprehensive maternal and child health services as an effort to prevent and control Covid-19, also provide health promotions on methods of care for postpartum mothers and health services for infants and toddlers during the COVID-19 pandemic

Conflict of Interest

There is no conflict of interest.

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