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Digital Pocketbook Increase Mother's Knowledge about Covid-19 Transmission Prevention

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Abstract

Mothers and infants are at an increased risk of COVID-19 transmission. One of the preventive efforts that can be done is to use technology as a medium for health promotion, namely digital pocketbooks. Digital pocketbooks in accordance with the conditions of the COVID-19 Pandemic, where there is a policy of transmission efforts by limiting interaction and staying away from crowds. To determine the effect of using a digital pocketbook on a mother's knowledge about reducing COVID-19 transmission to pregnant women, new mothers, postpartum mothers, and newborns. This study is a quasi-experimental study with an uncontrolled, pretest and posttest approach conducted at the Posyandu Tangkolo (Melati 2) in the Ciamis District. The sampling method used was purposive sampling, and a total of 30 samples. The digital pocketbook is given to increase mothers' knowledge about to raise moms' awareness of COVID-19 prevention strategies for pregnant women, mothers in labor, postpartum mothers, and infants. Questionnaires were used to measure the mother's knowledge before and after being given a digital pocketbook. Paired T-test was applied for effect analysis.

The results showed that there was a significant effect of digital pocketbooks on mothers' knowledge about preventing the Covid-19 transmission in pregnant women, mothers giving birth, postpartum mothers, and newborns (p=0.000). Digital books make it easy for mothers to access information without having to leave the house, practically, whenever and wherever they want to open and read them easily.

The use of digital pocketbooks can help mothers have a better understanding of how to prevent the transfer of COVID-19 to pregnant women, new mothers, postpartum mothers, and infants. It is recommended that digital pocketbooks can be used as a means to carry out health promotion.

Keywords: Digital pocketbook, knowledge, mother, covid-19.

Introduction

Covid-19, also known as Coronavirus illness 2019, is a contagious disease caused by Coronavirus 2 Severe Acute Respiratory Syndrome (SARS-COV-2). SARS-CoV-2 is a novel coronavirus type that humans have never seen.[1] COVID-19 infection is often associated with acute respiratory distress syndrome symptoms such as fever, coughing, and shortness of breath. COVID -19 incubates for an average of 5-6 days, with the longest incubation duration being 14 days. COVID-19 infection in severe conditions may result in pneumonia, acute respiratory syndrome, renal failure and even death.[2]

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COVID-19 has spread to all of Indonesia's province, with an escalating mortality toll. It affects all spheres of life, including political, economic, social, cultural, defense, security, and the welfare of the Indonesian people.[1]

COVID-19 can be transmitted to anyone, including mothers and babies. Mothers and infants are at an increased risk of COVID-19 transmission. It is anticipated that may result in an increase in mother and newborn mortality and morbidity.[3]

The restriction is one of the consequences of the COVID-19 pandemic, implemented to almost all services, especially maternity and infant health. For example, pregnant women are hesitant to visit the Puskesmas or other health care facilities as the are afraid of contracting the disease, the recommendation for pregnancy check-ups is limited, class activities for mothers are terminated indefinitely, and Posyandu activities are postponed so that mothers and babies do not go to have their health checked, as well as service unpreparedness. In terms of personnel and infrastructure, one of them is personal protective equipment.[1]

Based on data in September 2020, children aged 0-5 years accounted for 2.4 percent of all infected patients, and 1.3 percent of them perished. Pregnant women were proven positive fo COVID-19 at a rate 4.9 percent. Pregnant women, maternity moms, postpartum mothers, and babies are all targets for COVID-19 transmission, and this condition is expected to increase maternal and child mortality and morbidity.[1]

The data of positive confirmed patients in the Ciamis district is increasing and is included in the red zone. In a day, it can reach 30 cases; even within three days, there are cases of death of COVID-19 patients, which are quite high. This can pose a risk to the health of mothers and children.[4]

The government has carried out socialization and directives on preventing COVID-19 to the entire community. But not a few of the people who do not really understand how to prevent it. There are still many people who have not done what is directed by the government. This happens because the people's literacy skills are still low, and there are still many people who do not have access to information media so that the knowledge possessed by the community is still minimal. It is critical to have a thorough understanding of the Covid-19 disease in order to avoid contributing to a rise in the number of Covid-19 cases.[5]

At the moment, technological advancement have driven many changes in human existence transitioning us from the information age to the digital almost every sector. Utilization of technology as a medium of instruction is one of the inventive ways to expand one's knowledge.[6]

Technological advances have brought major changes in the field of health promotion, especially during the COVID-19 Pandemic, where at this time, in an effort to control and prevent the Covid-19 transmission, a policy of limiting interactions and crowds was carried out and maintaining physical distance from one another. Based on this, direct face-to-face interactions are required to adapt to pandemic situations and conditions, one of which is online interaction (in the network). One of the technological advances is the use of digital books to increase knowledge (Kementerian Kesehatan RI, 2020b). Digital books are learning media that are innovative as the use of technology that contains material that is more concise and practical to use and is usually in pdf format.[8] Digital books are easier to access on mobile devices. So digital books are easier to understand and apply, and there is no need to face to face to avoid the Covid-19 transmission.[9]

Government policies in order to reduce the Covid-19 transmission through efforts to limit interactions and crowds greatly impact the learning process, these conditions lead to changes in learning patterns. The use of digital platforms is very effective in increasing knowledge about preventing the Covid-19 transmission.[10]

Ciamis District has 26 sub-districts, one of the sub-districts with the highest incidence of COVID-19 is in Ciamis District, which can be a high risk to the health of mothers and babies. One of the problems in the Ciamis District is that information on preventing the Covid-19 transmission has not been evenly distributed, especially to mothers and children. One

of the centres for public health activities, especially for mothers and children in the Ciamis District, is the Tangkolo Posyandu (Melati 2). Based on a survey asking about the prevention of Covid-19 transmission to pregnant women, mothers giving birth, postpartum mothers and newborns to mothers who come to the Posyandu, they only know about prevention in general.

Materials and Methods

Study Design: This quantitative study uses a quasi-experimental approach with a single group pretest-posttest. The goal of this research was to investigate the influence of using a digital pocketbook on a mother's knowledge regarding COVID-19 prevention in pregnant women, mothers in labour, postpartum mothers, and newborns.

Instrument: This research used a questionnaire as its data collection tool. This questionnaire was used to measure mothers' knowledge regarding COVID-19 transmission prevention in pregnant women, mothers giving birth, postpartum mothers, and newborns. This questionnaire contains 44 questions regarding efforts to prevent Covid-19 transmission in general for pregnant women, mothers in labour, postpartum mothers and newborns. The questionnaire is in multiple-choice questions with correct and incorrect answer choices. Knowledge is divided into thress categories, namely good if 75% of respondents answered correctly, sufficient if 56-70% of respondents answered correctly, and less if 55% of respondents answered correctly. In addition to instruments, this study also uses a Digital Pocket Book, which contains guidelines for preventing the Covid-19 transmission in pregnant women, mothers in labour, postpartum mothers, and newborns.

Research Procedure: The research process begins with filling out the consent form to become a respondent. Furthermore, respondents filled out the first questionnaire as a pre-test by taking into account the health protocol. Then the respondent was given treatment in the form of giving a digital pocketbook containing how to prevent the Covid-19 transmission to pregnant women, maternity mothers, postpartum mothers and newborns. The book is distributed in the form of a link via Whatsapp. Respondents were given the opportunity to study digital pocketbooks for 1 month. The next meeting was conducted post-test when the respondent returned to the Posyandu the following month.

Data Analysis: The normality test of the data was carried out using Kolmogorov Smirnov. The data obtained were normally distributed because the significance value was > 0.05. Paired T-Test to determine the effect of digital pocketbooks on mother's knowledge about preventing the Covid-19 transmission in pregnant women, maternity mothers, postpartum mothers and newborns, the significance test was carried out using = 0.05 and CI. 95%. As a result of the statistical test, the p-value was 0.000.

Result

In the study of digital pocketbook increase mother's knowledge about covid-19 transmission prevention can be seen in the following table:

Table 1: Frequency Distribution of Respondents Characteristics

Characteristics	Frequency (n)	Percentage (%)
Age		
Young	22	73.3
Old	8	26.7
Education		
High	3	43.3
Intermediate	14	46.7
Low	13	10.0

Table 1 shows that the majority of respondents are mostly young women aged 20-35 years at 26.7%, with a secondary education level of 46.7%, the average is high school education.

Table 2: Frequency Distribution of Prior and Knowledge After being given a Digital Pocketbook

Mothers' Knowledge	Frequency (n)	Percentage (%)
Before		
Good	7	23.3

Mothers' Knowledge	Frequency (n)	Percentage (%)
sufficient	17	56.7
Less	6	20.0
After		
Good	22	73.3
sufficient	7	23.3
Less	1	3.4

Table 2 shows that most mothers' knowledge before being given a digital pocketbook was sufficient at 56.7%. After being given a digital pocketbook, it seemed to have increased, where the majority had good knowledge of 73.3%.

Table 3: The Effect of Digital Pocketbook on Mother's Knowledge about COVID-19 Prevention

Variable	Before	After	Value of p
	n = 30	n = 30	
Mothers Knowledge			0,000*
Mean	1,9	2,6	
Median	2	3	
SD	0,548	0,563	

Note: * T test paired

Table 3 shows that the digital pocketbook variable has a statistically significant effect on mothers' knowledge about preventing the Covid-19 transmission to pregnant women, mothers giving birth, postpartum mothers, and newborns.

Disscussion

The results showed that the characteristics of the respondents were primarily young people with a secondary education level, namely SMA. A person's education level also determines absorption and understanding of knowledge about preventing the Covid-19 transmission to mothers and babies. Thus, a digital pocketbook will make it easier for mothers to learn it and apply it in everyday life. The higher the education, the higher the quality of knowledge. Mothers will tend to pay more attention to the health of themselves and their families. According to Hawari (2016) states that a person's level of education will affect the process and ability to think so that they will be able to capture new information.[11]

Young people use mobile phones more and are often in contact with various applications and platforms, making it easier to use digital technology. While the elderly have limitations in using internet features and applications.[12]

Based on the results of the study, it was found that most of the mother's knowledge before being given a digital book was sufficiently knowledgeable by 56.7%. After being given a digital book, most of the mother's knowledge became good by 73.3%. Based on the results of the questionnaire analysis, there was an increase in knowledge about preventing the Covid-19 transmission in pregnant women, mothers giving birth, postpartum mothers, and newborns. Previously they only knew about prevention in general. With the digital book, they can read about prevention specifically, namely preventing the Covid-19 transmission for pregnant women, mothers in labor, postpartum mothers, and newborns.

The consequences that can occur if the mother's knowledge about preventing the Covid-19 transmission is low is that it can increase the risk of maternal and child morbidity and mortality. This is the basis for the need for efforts to spread knowledge about preventing COVID-19. This is a preventive effort that can be done with the aim of preventing transmission.[13]

One of the results of the study stated that the lack of information about the impact of the pandemic on mothers and children could lead to a declining trend in the use of maternal and child health services. Many mothers did not know about the flow of health checks during the COVID-19 pandemic, causing many to be rejected when they were about to check with health workers because they had not previously made an appointment.[14]

The results of statistical tests using the t-test obtained a p-value 0.000 <0.05, which means that there is an effect of giving digital books to increasing maternal knowledge in the Tangkolo Posyandu (Melati 2) Pawindan Village, Ciamis District. Based on the results of the study, digital books have proven to be effective in increasing mothers' knowledge, especially in preventing the Covid-19 transmission. Digital books are very appropriate to use, especially during the COVID-19 pandemic, where there are

policies to prevent the Covid-19 transmission by limiting interactions and crowds. Digital books are able to increase mothers' knowledge about COVID-19 prevention without mothers having to meet face-to-face with health workers to get information.

Digital books are publications consisting of text, images, and audio, published in digital format, and can be read on computers and other electronic devices. This digital book is more environmentally friendly because it reduces paper usage, is durable, can be easily distributed via short messages, WhatsApp, or the website. These digital pocketbooks are usually more interesting, interactive, easier to understand the material, easy to carry, not obsolete, easy to process, and physically small in size. This digital book is one of the alternative learning media which is a very appropriate choice to improve knowledge, because whenever and wherever they want to open and read it easily.[9]

The development of digital technology is currently so rapid. One of the mobile devices currently used is a cellular phone. Android-based digital pocketbook application is one of the developments of mobile learning (m-learning). The advantages of a digital-based digital pocketbook application are user-friendly, which is easy to use in operation, practical to use, and does not take up too much space in the system to install this application.[15]

Digital media provides women with ease and color in great detail, and it is very easy to access the information needed to build and maintain social connections and relationships with other women. Pregnant women and those with young children are in dire need of digital information to add information about health.[16]

This research is also in line with Coral et. al., who stated that the use of digital books provides a greater ability to increase knowledge, attitudes, and skills. These findings suggest that there are other capabilities or colors offered by the technology, which are not available in paper-based books.[17]

Other studies suggest that the use of technology can increase maternal knowledge and also increase awareness of health literacy. This health literacy can bridge the health status of mothers. The use of technology can also make it possible for women to involve themselves in empowering their environment, for example, by informing the wider community of what has been obtained, especially information on preventing the Covid-19 transmission.[18]

The utilization of information media is very influential on the delivery of health messages, especially on maternal and child health. O'Higgin's research (2013) states the role of digital media will make it easier for mothers to access information about pregnancy to increase knowledge in prenatal care services.[19]

Health technology is developing rapidly and is everywhere. There is a lot of potentials for digital solutions to extend health services to hard-to-reach communities. Digital health can help meet health information and improve health. But before implementing digital health or other digital technology, you must consider the availability of mobile phone facilities, internet connectivity, and others. So that it will be effective in providing health information.[20] It is found in this that some mothers who visited the Posyandu did not have a mobile phone with Android facilities, so they could not be given a digital pocketbook.

Conclusion and Acknowledgment

Conclusion: There is an influence of digital books on mothers' knowledge about preventing the Covid-19 transmission. It is recommended that digital pocketbooks can be used as a means to promote health, and mothers can disseminate information obtained from digital pocketbooks to the general public.

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