The Use of Telegram Chatbot Application Services as a Means of Communication in Increasing Satisfaction and Knowledge of Mothers Who have Toddlers

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ABSTRACT

Background: the COVID-19 pandemic is a major highlight in the health care system. In the development of technology, communication media plays an important role nowadays. Online communication media is an effective communication in providing information to the public, especially health information about the health of infants and toddlers. This study aimed to determine the effect of using the Telegram chatbot service as a means of communication on the satisfaction and knowledge of mothers who have toddlers.

Research Method: this study used correlational descriptive with cross sectional approach. The sample of this research was mothers who have toddlers in the Pontianak area of 30 people. The analysis used the Wilcoxon test; the results of the statistical test showed knowledge of p value 0.000 (p <0.05) and an increase in respondent satisfaction in accessing health information with an average usability score of 68.16. The score was interpreted into three assessments; the first is acceptability ranges where the score is included in the Marginal High, the second is the interpretation of the grade scale, the grade D is obtained, and the third interpretation of the Adjective Ratings is categorized as good.

These results mean that overall respondents stated that the application was used easily by users so that they felt satisfied when using the application

Keywords: Telegram Application, Satisfaction, Knowledge

INTRODUCTION

The World Health Organization (WHO) has determined the corona virus disease as the spread of the virus during the COVID-19 pandemic throughout the Indonesian population. The spread of Covid-19 caused the biggest death in several countries. In Indonesia as of August 8, 2020, there were 320,564 positive cases with 11,580 people died[1]. Government policies in efforts to prevent and control the transmission of the virus are in the form of limiting interactions and crowds as well as maintaining distance. The implementation of this policy aims to reduce the risk of transmission of Covid-19 which. With social restrictions, the community has difficulty obtaining or meeting their needs in the field of public services, the impact of public services during a pandemic such as reducing service time and reducing face-to-face contact in health services so that service users who expect to conduct internal consultations with service providers have limitation[2].

One of the most important parts in the health service system during the COVID-19 pandemic is online communication media by looking at modern technological developments. Health information is something that the public is looking for, especially information on the health of infants and toddlers. This

communication media is the main point that attracts attention in the process of disseminating information[3]. Various challenges are still a problem in the implementation of immunization programs such as lack of knowledge about the benefits and importance of immunization for children's and community health, negative news about halal-non-halal vaccines that have spread through mass media or social media, counteracting hoax news about immunization, outreach Immunization services are not yet extensive. This problem is the trigger for rejection of vaccination and the increased risk of disease outbreak transmission. When the situation is not conducive, such as the Covid-19 pandemic, parents who have infants and toddlers experience anxiety and think when and how to carry out safe immunizations in health facilities. This makes parents decide to delay immunization. This challenge is a factor in the desire to realize the pro-vaccine movement by increasing the quality and trust in immunization program services[4]. Immunization education has been carried out by health workers to parents who have toddlers, but unfortunately the immunization education provided is not optimal, considering that there are still many parents who are reluctant to immunize their children today. Immunization education can be informed through various media, the use of information technology (IT) is being intensively carried out. The use of IT has changed the paradigm of human life, almost all aspects of human life are affected by IT[5].

Utilization through the system can increase the knowledge of parents in obtaining information about the implementation of immunization and the quality of services in health facilities during the COVID-19 pandemic. Various information dissemination innovations have emerged that cannot be separated from the role of information technology. Chatbot technology is a potential to get health education, especially immunization by using the Telegram application. The system uses the Telegram application which is a trend and is widely used by the public. According to (Nova, 2018) based on her research, it was found that the use of the telegram application was highly effective in conveying information[6], this is in line with research (Baiti & Nugroho, 2013) stating that the chatbot application was quite effective in answering the questions respondents wanted. Based on the explanation above, the researcher is interested in conducting research on the use of chatbot application services as a means of communication towards satisfaction and increasing knowledge of mothers who have toddlers[7].

LITERATURE REVIEW

Telegram as one of the instant messaging applications claims that it can cover some of the shortcomings that exist in WhatsApp. Telegram serves as the main interface for users. It is the most popular platform for companies and individuals to host their chatbots, as the user base of the Telegram social network is quite large in many parts of the world[8].

In the United States and several other countries, Telegram is the number one application for the category of social networking after Facebook and WhatsApp. The success of the Telegram bot stems from its easy-to-use interface compared to the various apps and services available. This bot saves time by easily registering and logging in, along with simple communication with timely replies[9]. Chatbot is a computer program that can interact with humans through messaging applications, text messages in chat windows, and voices that use the same application in return. Chatbots, also known as conversational robots, are computer programs that users interact with through natural language dialogue and provide some form of service. Chatbot is often used in various application domains such as customer support, e-commerce, education and learning, information retrieval, healthcare and many more as they enable intuitive and accessible human-

computer interactions. The chatbot has been equipped with artificial intelligence and natural language processing/NLP which makes it an intelligent computer application and can create back and forth conversations to answer questions given by humans. The chatbot was built to help humans in terms of information services/customer service. In the chatbot, a knowledge model has been implanted to answer questions that are in accordance with the context that has been prepared[8].

The use of Telegram application as a communication medium is influenced by several factors, one of which is knowledge. Knowledge is the result of "knowing" and this occurs after people have sensed a certain object. Sensing occurs through the five human senses, namely: the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through eyes and ears[10]. According to (Notoatmodjo, 2014), knowledge in the cognitive domain has 6 levels, namely Know, Comprehension, Application, Analysis, Synthesis, Evaluation[10]. Evaluation relates to the ability to make an assessment of a material or object. Factors that influence knowledge include Education, Information/Mass Media, Social, Culture and Economics, Environment, Experience, Age. Satisfaction is a person's feeling after comparing the perceived performance or outcome with expectations for the product. The level of satisfaction is the difference in perceived usefulness of consumers and existing expectations. Satisfaction is the user's response to the suitability of the level of interest or expectations of users before and after receiving their services[11].

MATERIALS & METHODS

This type of descriptive correlational research is to determine the effect between variables through hypothesis testing. The method used in this study is a quantitative method. The research design used is cross sectional, which is a data collection method in which the measurement of the variables is carried out only once at a time. The study

was conducted in Pontianak Kota Subdistrict, West Kalimantan, Indonesia in October 2020. The research subjects were mothers who have toddlers in Pontianak. The sampling technique was accidental sampling with 30 samples. The instrument used to collect data was a questionnaire modified by the researcher. The researcher has inclusion criteria, namely mothers who have a smartphone and are willing to download the Telegram chatbot application, have toddlers, and mothers who can read and write.

To measure knowledge, it used the Wilcoxon difference test, while to measure satisfaction using SUS (System Usability Scale).

RESULT

The proportion of respondents based on the characteristics of respondents can be seen from the following table:

Table 1 Frequency Distribution of Respondents By Age, Education and Occupation

Category	f	%
Age		
>20 years	2	6.7
20-35 years	25	83.3
< 35 years	3	10
Education		
Low	14	46.7
Tall	16	53.3
Occupation		
Does not work	13	43,3
Work	17	56.7

Furthermore, the average value (mean) on the variable of mother's knowledge about care for toddlers in the use of the Telegram chatbot application can be seen in the table below:

Table 2 Mean (Mean) Knowledge of Mothers of Infants Toddlers In Using the Telegram Chatbot Application

Variable		Mean	*p value*
Knowledge	Pretest	7.30	0,003
	Posttest	9,17	0,000

Then the effect of using the Telegram chatbot application on the knowledge of the respondents can be seen from the comparison results of the pretest and posttest. Before testing the hypothesis, the data obtained in this study need to be

tested for normality first. The normality test used was the Kolmogorov-Smirnov test because the number of respondents in this study was less than 50. Based on the results of the Kolmogorov-Smirnov test, it was found that the knowledge pretest was 0.003, meaning <0.05 then the data was not normally distributed and the knowledge posttest result was 0.000, meaning < 0.05, then the data was not normally distributed. Therefore, to determine the effect of using the Telegram Chatbot Application as a Communication Means in increasing mother's knowledge using the Wilcoxon difference test. The analysis showed the effect of using the Telegram chatbot application service as a means of communication. In increasing mother's knowledge significantly, the value of 0.000 < 0,05 was obtained (Table 3).

Table 3 Effect of Mother's Knowledge of Infants under five In Using the Telegram Chatbot Application

Knowledge	Mean	*p*
Pretest	7.30	0,000
Posttest	9,17	

On the satisfaction variable, this study used an analysis using the System Usability Scale (SUS) method. The SUS method is a way to test the usability of an application, this method was developed as a "quick and dirty" usability measurement. Based on the results of the calculation of 30 respondents, the total score was 1685 and the average value of SUS was 68.16. There are three assessments of the SUS method, namely as follows:
1. Acceptability Ranges with reference to the average value above are included in the Marginal High.
2. Grade Scale with reference to the average value above, it includes the D scale
3. Adjective Ratings with reference to the values above are considered Good.

From these results, it can be stated that the Telegram chatbot application can be used easily by users so that users feel satisfied when using the application and are expected to support health services in health facilities.

DISCUSSION

The frequency distribution of respondents based on age shows that most of the respondents are 20-35 years old, which is 83.3%, that age is included in the productive group. The productive age group is someone who has reached intellectual and psychomotor maturity[13]. This means that the age level of mothers who have babies already has rational and psychomotor maturity proven when getting complete basic immunization information through the application used. According to (Notoatmodjo, 2014) age has an effect on a person's grasping power and mindset; the older a person gets, the more information education they have[10]. Apart from age, education has a role in the information received based on the results obtained in this study, some mothers who had babies under five had a high education, namely 53.3%, according to (Astuti, 2012) states that the level of education is related to the respondent's ability to understand the received health information[12], the better the education, the better the ability to understand health information. (Rukmini, 2015) in his research that the factors that affect knowledge, one of which is the level of education, although education is not only obtained from the level of formal education but with good education, mothers of infants and toddlers will be easier to understand and willing to explore more information about immunization[13]. The results showed that most of the respondents were working mothers, namely 56.7%. This is because mothers have time to socialize outside the home to get information about immunization during the COVID-19 pandemic. These results are in accordance with research from (Karimawati 2013) stating that the respondent's job status can affect mother's knowledge[14].

The study concluded that there was an effect of using the Telegram chatbot application service as a means of communication. In increasing mother's knowledge significantly, the value was 0.000 < 0.05. Android-based applications

have an impact on utilization in the implementation of health education. Research results are strengthened in research (Neogroho, 2018) stated that in his research on the effectiveness of using android-based application media in information communication and health education, there was an increase in mother's knowledge and skills of children in brushing teeth before and after using the SEHATI application[15]. In addition, according to (Budianto, 2016) in his research that the android application of breastfeeding father was effective in increasing knowledge of exclusive breastfeeding (breastfeeding fathers) in the work area of the Pengandan Health Center in Semarang City. Theoretically, health education can be provided through any media, but what has a major influence on health education in times like this is an android-based application (smartphone) because it makes it easier for people to understand and access an application. Currently, the use of information technology has changed the paradigm of human life. Mostly, part of human life is influenced by the role of information technology which is intensively activated so that the application created is one of the health education innovations that can be given during the Covid-19 pandemic[18]. Application media can function like a tutor where the android application provides information through mobile phone services and can provide opportunities to interact with the information[14]. Implementation of health education, especially the implementation of immunization services using the Chatboot Polita application is done by using the interpersonal communication model. The material that can be given in an application is material about immunization services, and the delivery of this telegram application is done by using a mobile phone.

The results of the statistical analysis show that the average SUS is 68.16, which means that the level of satisfaction of respondents regarding the usefulness of the application is in the very high range which

indicates that the telegram chatbot application is acceptable which means that it is easy to use by mothers who have babies under five. Most of the mothers use the Telegram application, which is easy to use and does not have limitations on the quota for group participants. Research conducted by (Nadarzynski, Miles, Cowie, & Ridge, 2019) stated that the use of the Alexa chatbot application which shows the level of satisfaction or acceptance of respondents at the level of the low category with an average score of 76%[16]. The results of this study are in line with research by (Cameron, G., 2019, et al) related to the use of chatbot for mental health services that have a high satisfaction range with a score above 68.16[17]. In addition, Piaud's research (2020) states that the use of chatbots in elderly patients suffering from cancer has an average of high category.

CONCLUSION

Based on the research results, it can be concluded that the use of the Telegram chatbot application as a means of communication has an effect on increasing mother's knowledge significantly with a value of 0.000 <0.05. Besides, the use of chatbot application is effective in increasing respondent satisfaction in accessing health information with an average usability score of 68, 16. The score is interpreted into three assessments; the first is acceptability ranges where the score is included in the Marginal High, the second interpretation is grade scale, grade D is obtained, and the third interpretation is Adjective Ratings is categorized as good. These results mean that overall respondents stated that the application was used easily by users so that they felt satisfied when using the application.

Ethical Approval: Approved

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