

Evaluation of Teleconsultation in the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta

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Abstract— This study aims to evaluate teleconsultation at the lactation clinic of RS AMC Muhammadiyah Yogyakarta. This study used a cross-sectional research design with quantitative approach. The subjects of this study were clients at the lactation clinic, health workers, and the management team at RS AMC Muhammadiyah Yogyakarta. The population used in this study was all clients (30 people) who used teleconsultation services at the lactation clinic of RS AMC Muhammadiyah Yogyakarta during the pandemic. Furthermore, the author used SmartPLS as a data analysis tool in this study. The results of this study indicate that the Perceived Ease of Use variable has a significant effect on Perceived Usefulness with a T statistic and a P-Value of 0.000. The Perceived Usefulness variable significantly influences Attitude Towards Using with a T-statistic of 4.415 and a P-Value of 0.000. Furthermore, the Perceived Ease of Use variable has no significant effect on Attitude Towards Using with a T-statistic of 0.144 and a P-Value of 0.886, meaning that the variable is rejected. Moreover, the Attitude Towards Using variable has a significant effect on Intention to Use with T statistic and P-Value of 16,790 and 0.000, respectively, and the Intention to Use variable has a significant impact on actual use of teleconsultation services at the Lactation Clinic of RS AMC Muhammadiyah Yogyakarta. The main contribution of this study is to evaluate teleconsultation services at the lactation clinic of RS AMC Muhammadiyah. Furthermore, to consider the service that has never been evaluated during the implementation of teleconsultation has been running. The results of this study are expected to be the basis for improving teleconsultation services that can accommodate all breastfeeding mothers, especially in the RS AMC Muhammadiyah Yogyakarta and other hospitals that have teleconsultation. Previously, the teleconsultation using zoom as an alternative, in the future, an application can be made that can accommodate the needs of nursing mothers. As for the limitations of this study, the author only focuses on analyzing teleconsultation at RS AMC Muhammadiyah Yogyakarta. The limitation of this study is become an opportunity in the future to develop further research by comparing teleconsultation globally and locally

Keywords— Lactase, Lactation Clinic, Teleconsultation.

I. INTRODUCTION

Asri Medical Center Hospital (AMC) Muhammadiyah Yogyakarta is one of the hospitals located in the city of Yogyakarta which has a Lactation Clinic. The Lactation Clinic at RS AMC Muhammadiyah Yogyakarta provides counseling services to breastfeeding, pregnant, and pre-pregnant women. This lactation clinic aims to help mothers and children successfully breastfeed for up to two years. The Lactation Clinic has breastfeeding counseling services and oxytocin massage/lactation massage. Before the COVID-19 pandemic, RS AMC Muhammadiyah provided breastfeeding counseling through the lecture method face-to-face in the Lactation Clinic room. The impact of the COVID-19 pandemic has caused limitations in conducting face-to-face consultations a. It has decreased the number of client visits to the Lactation Clinic at RS AMC Muhammadiyah.

One alternative method carried out by breastfeeding counselors at RS AMC Muhammadiyah with clients is to conduct breastfeeding counseling face-to-face with zoom meetings. The zoom application is a service in the form of software that can be used to support the implementation of online counseling. However, this application has weaknesses in the application counseling at RS AMC Muhammadiyah, including being unable to make consultation appointments and providing education only through video conference. Research conducted by Acharya and Rai (2016) shows that the problems that users of telemedicine services often face are operating the application, clarity, network speed, and communication with technicians. Other research by Yuswohady, Rachmaniar, A., Fatahillah, F., Brillian, G., and Hanifa (2021) shows that hospitals should provide telemedicine application services even though other telemedicine applications are already more popular. Hospital services are considered safer and more

reliable because the quality has been tested [3]. The application is one of the innovations implemented at the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta to facilitate communication between clients and breastfeeding counselors. This application is expected to be a technological means that makes it easier to serve clients more efficiently and can provide education related to breastfeeding problems that are more comfortable and easily accessible.

The use of teleconsultation services at the Lactation Clinic of RS AMC Muhammadiyah Yogyakarta is still shallow and there has never been an evaluation of teleconsultation implementation. It is feared that this will decrease the quality of service and can impact the organization's sustainability. It is essential to evaluate the actual conditions in the implementation of teleconsultation that are already running and can improve the performance of future teleconsultation services. Evaluation of telemedicine user acceptance that is already running can be done using the Technology Acceptance Model (TAM) method. TAM is a model that is theoretically and practically considered the best and most appropriate to explain how users receive a system, and is a popular model which has been widely used in various studies in many countries and provides a solid and simple explanation of the acceptance and behavior of its users (Park, 2009; Priyanka, S., & Kumar, 2014). TAM has been widely used in the health sector to assess the tendency of users of teleconsulting applications to accept technology [6]. Davis discovered TAM in 1985. The use of information technology with the TAM method is influenced by benefits (Perceived Usefulness), user perceptions of the ease of using technology (Perceived Ease of Use), attitude towards using, intention to use (intention to use), and actual use [7].

The novelty in this study is the authors analyze teleconsultation through the zoom platform as a teleconsultation service for breastfeeding infants that in the previous research generally examined application-based teleconsultation. Although many studies have adopted the TAM theory in evaluating teleconsultation, in this study the authors tried to compare outcomes between the previous findings with this study findings using the same theory.

II. METHOD

A. Research Type and Design

This study used a cross-sectional research design with a quantitative descriptive approach. The subjects of this

study were clients at the lactation clinic, health workers, and the management team at RS AMC Muhammadiyah Yogyakarta. The object of this research is the implementation of telemedicine which has been carried out at the RS AMC Muhammadiyah Yogyakarta. The population used in this study was all clients who used teleconsultation services at the lactation clinic of RS AMC Muhammadiyah Yogyakarta during the pandemic were 30 people

B. Sampling

The sampling technique in this research is purposive sampling. This technique is used for sample determination with specific considerations. The sample selection was based on the criteria of the research objectives determined by the researcher to obtain a representative sample. The sample in this study consisted of internal and external. External users are clients who use teleconsultation services at the lactation clinic of RS AMC Muhammadiyah Yogyakarta. Internal users include breastfeeding counselor doctors, one IT staff, one medical record person, and one finance officer at RS AMC Muhammadiyah Yogyakarta.

The sample size of this study was calculated based on the Slovin formula as follows:

$$\frac{n=N}{1+N(d)^2}$$

Note:

n : sample
N : population
d : desired error rate

Calculation of the sample size of pregnant women is as follows:

$$\frac{n=50}{1+50(0.12)^2}$$

$$\frac{n=50}{1,72}$$

$$n=29,07$$

$$n=30 \text{ (rounded up)}$$

C. Research Model and Hypothesis

The variables in this study refer to the TAM model. TAM is used as a parameter to measure the evaluation of telemedicine user acceptance that is already running. The variables in this study are perceived usefulness, user perceptions of the ease of using technology (perceived ease of use), attitude towards using, intention to use, and actual use. The data scale used in this study is an interval measured by a Likert scale.

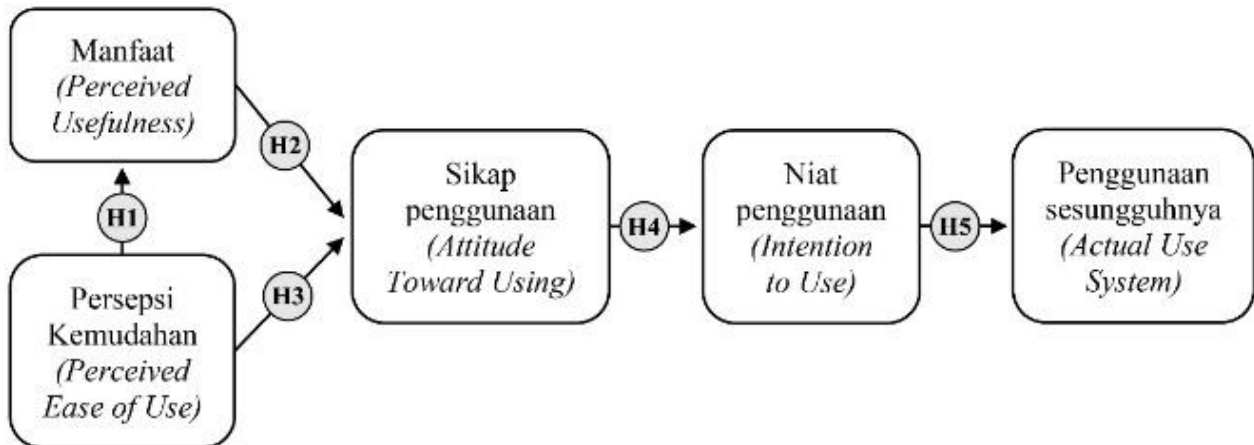


Figure 1: Theoretical Research Framework

D. Data Collection Technique

The data collection technique used in this study was a questionnaire. In this study, the questionnaire will be filled by external users of teleconsultation services at the lactation clinic of RS AMC Muhammadiyah Yogyakarta.

E. Data Analysis

Data analysis in this study used Partial Least Square (PLS) with the help of SmartPLS. The reason the researcher uses this analysis is that: 1) the data does not have to be normally distributed; 2) it can manage samples that do not have to be large, 3) and this analysis helps design structural models well, can be used to confirm theories, can be used for complex models (consisting of several latent variables), and can determine whether or not there is whether or not the relationship between latent variables and simultaneously

can be used to determine the relationship between indicators and their latent constructs

III. RESULTS AND DISCUSSION

A. Teleconsultation at the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta

In this discussion, the author uses the Technology Acceptance Model (TAM) method in evaluating Teleconsultation at the Lactation Clinic, RS AMC Muhammadiyah Yogyakarta. In the initial discussion, the author presents the demographic profile of the respondents based on a survey conducted by researchers on lactation clinics, health workers, and the management team at RS AMC Muhammadiyah Yogyakarta.

Based on the method of determining the sample determined by the researcher, there were 30 respondents with a composition of more women than men. The following can be seen as the demographic profile of this study's respondents.

Table 1: Demographic Information of Respondent (n = 30)

Characteristic	Frequency	%
Gender		
Man	1	3,33
Woman	29	96,67
Age		
20-25	4	13,33
26-30	13	43,34
31-35	9	30
36-40	4	13,33
Profession		
Private	12	40
Employee	12	40
Housewife	5	16,67
Nurse	1	3,33

B. Validated Research Model and Data Validity

The researcher proposes a model to test the data consisting of the constructs: Perceived Usefulness, Perceived Ease of Use, Attitude towards using, Intention to use, and Actual use. The quality of the measurement model is determined based on its validity and reliability by considering the values: Convergent Validity and

Discriminant Validity which can be seen from the score results from the outer model, namely the Average Variance Extracted (AVE) and outer loading values, with a note that it must be greater than 0.5 for can be said to be valid (Figure 2 & Table 2), and the Cronbach's Alpha and Composite dReliability values, respectively, must be more than 0.60 and 0.70, to be said to be reliable (Table 4) [8].

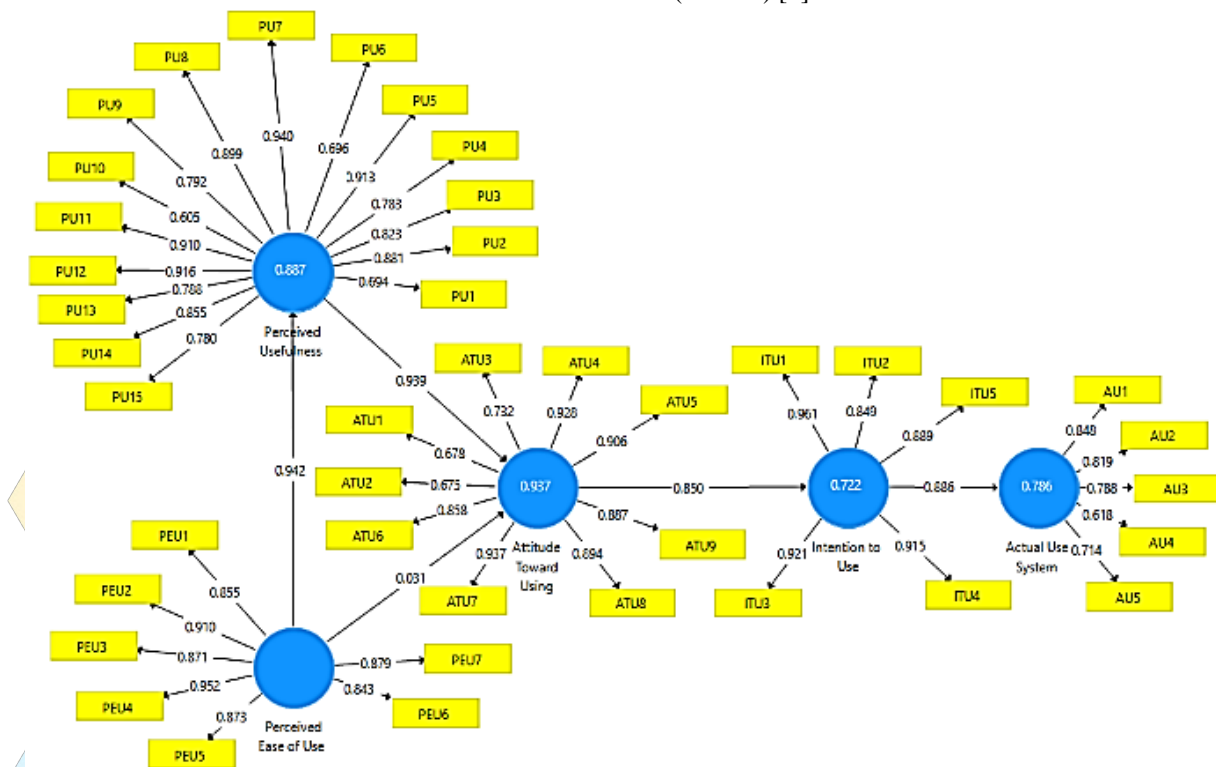


Figure 2: Validated Research Model | Source: Processed by researchers using SmartPLS software (2021)

The validity test results in figure 4 show that all statements in each research variable consist of: Perceived Usefulness, Perceived Ease of Use, Perceived Ease of Use, Attitude towards using, and Intention to use. The actual use has an outer loading value of more than 0.50, and all research variables have an AVE value of more than 0.50. Thus, it can be concluded that all statements on all research variables are declared valid or meet convergent validity and discriminant validity. In addition to being valid, an instrument must be reliable [9].

C. Data Reliability of the Instrument

Calculation of instrument reliability can be done using the Alpha Cronbach formula. An instrument is reliable if it has a Cronbach Alpha coefficient of 0.70. The instrument is said to be reliable or reliable if the measuring instrument produces consistent results. The test of the reliability level of the instrument in this study was conducted through an internal consistency test using the reliability coefficient (Cronbach alpha). The results of the reliability test using the Alpha Cronbach method are summarized in Table 4.

Table 2: Data Reliability

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)	Description
Actual Use System	0.819	0.872	0.581	Reliable
Attitude Toward Using	0.945	0.955	0.704	Reliable
Intention to Use	0.946	0.959	0.824	Reliable
Perceived Ease of Use	0.953	0.961	0.781	Reliable
Perceived Usefulness	0.965	0.969	0.678	Reliable

Table 4 also shows the value of Cronbach's Alpha and Composite Reliability, namely > 0.60 and 0.70, so it can be concluded that all research variables; Benefits (Perceived Usefulness), Ease of using technology (Perceived Ease of Use), Attitude towards using (attitude towards using), Intention to use (intention to use), Actual use (actual use) meets the reliability test. The measurement of the outer model that has met this validity and reliability test shows that further measurements for the Inner Model can be carried out.

D. Inner Mode Test

The inner model test was conducted to see the relationship between the research model's construct, significance value, and R square. The structural mode was evaluated using R Square for the dependent construct of the t-test and the significance of the coefficients of the structural path parameters. Assessing the model with PLS starts by looking at the R square for each latent dependent variable (Kusuma & Pribadi, 2020). Table 3 below is the estimation result of R square with SmartPLS 3.3.3.

Table 3: R Square Result

	R Square	R Square Adjusted
Actual Use System	0.786	0.778
Attitude Toward Using	0.937	0.932
Intention to Use	0.722	0.713
Perceived Usefulness	0.887	0.883

Suppose it is associated with the Rule of Thumb for the R Square test according to Ghozali Imam (2014), which

is 0.75 for the strong category, 0.50 for the moderate category, and 0.25 for the weak category. In that case, it can be concluded that the variables that affect the "Perceived Benefits" Usefulness), Ease of use of technology (Perceived Ease of Use), Attitude towards using, Intention to use (Intention to use), Actual use System both have a strong level of influence.

These results indicate that the Perceived Ease of Use variable can be influenced by Perceived Usefulness with a percentage of 88.7%. The Perceived Usefulness variable is influenced by Attitude towards using, which is 9.37%. Furthermore, the attitude towards using is influenced by the intention to use (intention to use), 72.2%. Finally, the variable intention to use (intention to use) is influenced by the intention to use the system (intention to use the system), with a total percentage of 78.6%

Hypothesis Testing Hypothesis testing between variables, namely exogenous variables to endogenous variables and endogenous variables to exogenous variables, was carried out using the bootstrap resampling method after knowing the validity and reliability of the data. The test statistic used is the t statistic (t-test). The comparison t value in this study was obtained from the t table. The test can be significant if the T statistics value is greater than 1,96 and the P value is less than 0.05 (Haryono, 2017). Hypothesis testing by looking at the output path coefficient from the bootstrap resampling results can be seen in Table 4.

Table 4: Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Hypothesis Assessment
Attitude Toward Using > Intention to Use	0.850	0.848	0.051	16.790	0.000	Accepted
Intention to Use > Actual Use System	0.886	0.898	0.049	18.241	0.000	Accepted
Perceived Ease of Use > Attitude Toward Using	0.031	0.096	0.215	0.144	0.886	Rejected
Perceived Ease of Use > Perceived Usefulness	0.942	0.950	0.017	53.953	0.000	Accepted
Perceived Usefulness > Attitude Toward Using	0.939	0.876	0.213	4.415	0.000	Accepted

Table 4 shows that from all the variables that have implications for each other, there are four accepted hypotheses, which are indicated by the T statistics value > 1.96 and P values < 0.05 (in green). In contrast, the rejected hypotheses are the opposite (Colored red). The results shown in Table 5 confirm, at the same time, negate the findings of previous studies. As for the

hypothesis that was rejected in this study, namely perceived ease of use of technology with the attitude of use (Attitude Towards Using) in teleconsultation services at the Lactation Clinic at AMC Muhammadiyah Hospital Yogyakarta (Hypothesis rejected) with T-Statistic and P-Value of 0.144 and 0886, respectively. This finding confirms that technology's perceived ease

of use does not affect the attitude of use (Attitude Towards Using) in teleconsultation services at the Lactation Clinic at AMC Muhammadiyah Hospital Yogyakarta.

Based on these findings, there is a hypothesis about the effect of perceived ease of use on attitude towards using teleconsultation services at the lactation clinic at RS AMC Muhammadiyah Yogyakarta (the hypothesis is rejected). This finding is also supported by several previous studies (Melinda & Setiawati, 2016; Rumana, Apzari, Dewi, Indawati, & Yulia, 2020; Saputra & Misfariyan, 2013)[13]. This research is in line with Sugihartono and Rendy's (2020) study about "Analisis Kepuasan Pengguna Menggunakan Technology Acceptance Model pada Sistem Pelayanan Publik" this finding confirms that the perceived benefits of using technology do not affect attitudes toward the use and behavioral intentions [11].

In Melinda and Setiawati's (2016) research, It is stated that there is a gap between telehealth interest of 76% and actual use of 46%. This is because there are still doubts about data security and efficiency compared to face-to-face meetings. The findings identify three factors contributing to the gap between interest in medical technology adoption and remote health. First is awareness of telehealth services. Second, knowledge of appropriate medical services through virtual or telemetry, and third, knowledge of payment and coverage of telehealth services [10]. It was also mentioned by Abigael and Ernawaty (2020) that delays in the implementation of telehealth or telemedicine could be affected due to the poor condition of technology infrastructure, lack of training for health workers, and lack of capacity building so that users will find it difficult to adapt to telemedicine services.

Although the hypothesis in this study is rejected and several previous studies, several previous studies support that there is an effect of the ease of using technology (Perceived Ease of Use) with attitude to use (Attitude Towards Using) [13]. It was mentioned in Putra et al. (2018) research about the Perceived Ease of Use (X2) variable has a significant effect on the Attitude toward Using (Y) variable with a t count of 1.988 with a significant $p = 0.011 (<0.05)$. The second regression equation analysis results show that the variables X1 and X2 significantly affect Attitude toward Using (Y). Another research that supports the accepted hypothesis is Larasati and Wulandadari's (2019) study mentions that perceived ease of use has a positive and significant

effect on attitudes toward using the implementation of UDD using an RS SIM in the Inpatient Pharmacy of the Panti Rapih Hospital. While partially the perception of ease of use and the perception of usefulness affect behavioral intentions by respectively ($\text{Sig} = 0.422 > 0.05$) and ($\text{Sig} = 0.001 < 0.05$), on the other hand the perception of ease of use affects the perception of usefulness ($\text{Sig} = 0.000 < 0.05$) [17].

V. CONCLUSION

The results obtained in this study are related to program evaluation using teleconsultation services at the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta. Four variables have positive and significant implications for other variables, first, the user's perception of the ease of using technology (Perceived Ease of Use) on the benefits (Perceived Usefulness), the benefits (Perceived Usefulness) with the attitude of use (Attitude Towards Using), the attitude of the use (Attitude Towards Using) to the intention to use (Intention to Use), the intention to use (Intention to Use) to the actual use (Actual Use). These four variables have positive implications for teleconsultation services at the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta; this means that using teleconsultation services provides convenience, the perceived system or usefulness is easier for users, so attitudes towards use will increase positively. The tele-lactation intervention was well received by stakeholders (mother and health care providers), and acceptance was influenced by the primiparity and perceived benefit of the tele-lactation consultation (extrinsic motivation). This intervention shows promising improvement in the provider-user relationships and breastfeeding outcomes through virtual treatment through compelling video conferencing for Breastfeeding Women. Another thing about this teleconsultation service is that it reduces the number of visits to the hospital and allows mothers to consult directly with health workers and from their own homes.

Another variable that does not have significant implications is the perceived ease of use of technology and attitude towards teleconsultation services at the Lactation Clinic at RS AMC Muhammadiyah Yogyakarta. First, awareness of telehealth services. Second, knowledge of appropriate medical services through virtual or telemetry, and third, knowledge of payment and coverage of teleconsultation services. This is influenced by the poor condition of technology infrastructures, such as equipment and basic needs to support video/zoom consultations. These internet

connection failures disrupt consultations and the absence of special transmission networks between organizations to facilitate communication, lack capacity building, and users will have difficulty adapting to teleconsultation services. Writing an action consent form, because the patient does not meet in person, then the signature or formal legal.

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