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THE INFLUENCE OF VIDEO GUIDE TO USING THE iPOSYANDU APPLICATION ON INCREASING RECORDING AND REPORTING SKILLS FOR CADRES IN PURWARKARTA REGENCY

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A B S T R A C T

The iPosyandu application is an innovation in the health sector in the form of mobile technology to assist cadres in recording and reporting. Implement cadres can record and report using iPosyandu. Video as a communication channel for the diffusion of innovations is an attempt to convey messages so that the knowledge, attitudes, and skills of someone who watches the video change. The study aimed to identify the effect of video guides on cadre skill improvement in recording and reporting using the iPosyandu application. The pre-post test study in 120 cadres in Purwakarta Regency was divided into two groups, 60 cadres in the intervention group and 60 in the control group. The intervention group received modules and videos on using the iPosyandu application, while the control group only received modules on using the iPosyandu application. iPosyandu recording and reporting skills using observation sheets. The study shows that video guide influences improving the skills of cadres when using the iPosyandu application ($p<0.001$). Video as a media guide that suits the needs of cadres and media experts can affect the skills of cadres in recording and reporting through iPosyandu.

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1. INTRODUCTION

Posyandu has an important role in improving the quality of maternal and child health through the health service process. Posyandu's other role is as a center for maternal and child health information and an agent of social change in the form of changes to people's perspectives on health, especially maternal and child health, monitoring growth and development children, early detection of disease, and one of the biggest changes is the change in the perspective of medicine and health which was previously an alternative to medical health treatment (Saepuddin et al., 2017). Posyandu is managed and organized from, by, for and with the community, to empower the community and provide facilitating the community in obtaining basic health services to accelerate the reduction in maternal and infant mortality (Widarti, 2019) .

The implementation of Posyandu involves all elements across sectors, both from city/district government agencies, the private sector, or related institutions, and a very important element, namely the community, where cadres as the community are the spearhead in every implementation of Posyandu activities. Successful implementation of Posyandu is highly dependent on the role of cadres, Posyandu cadres are generally members of the community who are seen as having more abilities than other members of the community, and are willing, capable, have time to organize Posyandu activities and work voluntarily.

Posyandu cadres can also be said to be communication facilitation or communicators who carry out communication actions to persuade the public to provide information and knowledge (Susanto, 2017). The role of cadres in Posyandu activities starts before the posyandu opens, on the posyandu open day until Posyandu services are completed, then the cadres together with health workers complete the records and discuss the results of activities and follow-up. Posyandu recording and reporting activities are carried out by cadres in the register that has been provided, namely the Posyandu Information System.

The iPosyandu application is an innovation in the health sector in the form of mobile technology cadres in recording and reporting. This information technology innovation is a smartphone application that can also be used on Android-based tablets and can facilitate cadres' tasks because they can move recording and reporting from manual to reporting with mobile technology. iPosyandu was developed to store and manage data, child development, and maternal health.

The iPosyandu application is a new technology for cadres so in practice cadres need a guide to be able to improve their skills in using the application. Preparation of guidelines or guidelines needs to be developed as a means for cadres to be able to operate the iPosyandu application, with a practical guide on using mobile health can increase interest and motivation so it is important to be able to use the application. An important guide to improving application skills, especially for novice users.

Video can be an alternative choice with all the limitations in the field compared to guides such as books which can be lost or damaged. Video can be a model for observational learning and a communication channel for new innovations. Video as a communication channel for the diffusion of new innovations is an attempt to convey messages so that the knowledge, attitudes,

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and skills of someone who watches the video change. Merkt's research states that video learning is comparable to or even superior to traditional textbooks (Merkt & Schwan, 2014).

Dale stated that in learning, humans use 75 percent of the sense of sight (visual) and only 13 percent use the sense of hearing (audio) . Utilizing messages from video media by incorporating new ideas, opinions, and even facts through communicative messages (persuasion) can influence the opportunities for the desired behavior change to occur as a result of learning. The results of Hoogerheide's research state that the use of video supports learning in the acquisition and demonstration of cognitive, affective, and psychomotor skills (Hoogerheide et al., 2014). The use of video with good quality can support behavior change so that it can implement a new innovation.

Observational learning theory or observational learning theory explains how humans learn new behaviors by observing. Observational learning is learning by looking at the behavior of other people, or models. The video according to Bandura is a symbolic model in the observational learning process. Taxonomy of learning functions According to Brigss, regarding video with sound as a learning medium, it has an attentional function as a stimulus, that is, videos can attract attention and direct the audience's concentration on video material, directing attention or activities. The effective function is that video media is able to arouse the emotions and attitudes of the audience.

The effect of the iPosyandu application guide video on improving the skills of cadres in using the application is not yet known. This research was conducted to find out whether there was an effect of the video guide on improving the skills of posyandu cadres in using the iPosyandu application.

2. METHODS

Research using Pre-Experimental design. At this stage, video trials were carried out for the intervention group and module trials for the control group. Test videos and modules about the iPosyandu application with a quantitative design approach, namely pre-test and post-test control group design. In the first stage, an initial measurement (pre-test) was carried out, then the subject was given a video about the iPosyandu application and a post-test was carried out. The trial to the control group was in the form of giving the iPosyandu application module and the same thing was done, namely the initial measurement (pre-test) then the subjects were given modules regarding the iPosyandu application and the final measurement (post-test).

The research subjects consisted of 60 people in the intervention group and 60 people in the control group, namely Posyandu cadres who met the criteria and had filled out the consent form after being given an explanation (informed consent). The sampling technique in this study was carried out by purposive sampling. The inclusion criteria for this study were: active cadres who record and report Posyandu, aged 25-50 years, and own and are able to operate a smartphone. The research instrument used a checklist of observation sheets with 16 skill items.

The data collection stage includes: providing information regarding the objectives, benefits, reasons for the subject being selected, data confidentiality, and the research process to the subject; ask the subject to fill out an informed consent form if the subject agrees; collect data by paying

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attention to health protocols during this pandemic by requiring research subjects to wear masks, wash their hands first and always keep their distance; data collection for the intervention group and the control group was carried out using a purposive sampling technique; apply iPosyandu information dissemination by using videos about using iPosyandu for the intervention group and using modules for the control group; asking subjects to be assessed and examined after watching the video for the intervention group and after reading the module for the control group as a medium to improve cadre skills in using iPosyandu; and assessing the ability of cadres to use the iPosyandu application starting from registration, logging in, inputting data on infants under five, searching for data, filling out examinations, displaying examination history to logging out of the application using the observation sheet.

The study was based on bivariate analysis, namely the analysis used to determine the effect of video as a guide for using the iPosyandu application on cadres' skills in recording and reporting before and after the intervention. This study uses a control group as a counterfactual and will analyze the effect of the module as a guide for using the iPosyandu application before and after being given the module. The data of the two groups were first transformed using Rasch modeling with Winstep software, after which they were analyzed using SPSS software. The data analysis test was carried out on 2 groups with paired data for the effect test and unpaired data for the 2 groups' different test. Analysis of data normality using Shapiro Wilk. This research was proven by a letter of eligibility and approval from the health research ethics committee of the Faculty of Medicine, Padjadjaran University with number: 186/UN6.KEP/EC/2020. A permit letter from the Purwakarta Regency Political Unity Office with number: 070/152/kesbangpol and a permit from the Purwakarta Regency Health Office with number: 800/1302/Kepeg.

3. RESULT

Subject characteristics were analyzed based on age, education, and length of time as a cadre. These characteristics were taken based on the results of previous studies related to the knowledge and skills of cadres in using the iPosyandu application.

Table 1. Characteristics of Respondents

No	Items	Intervention Group		Control Group		p-value
		n	(%)	n	(%)	
1	Age (year)					
	17-25	3	5	1	1.7	
	26-35	14	23.3	9	15.0	0.424
	36-45	31	51.7	34	56.7	
	46-50	12	20	16	26.7	
2	Education					
	Elementary School	8	13	1	2	
	Junior High School	11	18	12	20	0.042*
	Senior High School	40	67	42	70	
	College	1	2	5	8	
3	Time of Work					
	< 3 years	11	18	12	20	0.817
	≥ 3 years	49	82	48	80	

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Based on the characteristics of the average age of the most cadres in the intervention group aged between 36-45 years, namely 51.7%, with an average education of graduating from high school with a total of 67%, while for the length of time being a cadre most of the cadres have carried out their duties for more than 3 years that is equal to 82%. In the control group, most of the cadres were aged between 36-45 years, namely 57% with an average high school education level of 70% and most cadres carried out their duties for more than 3 years, namely 80%.

Table 2. Statistical Descriptive Skills of Cadres in Recording and Reporting before and after Intervention

No	Skill	Mean (SD)	Median	Range	p-value*
1	Pre				
	Intervention	-1,351(0,937)	-1,525	(-2,75; 1,42)	0,002
	Control	-1,115(0,502)	-1,065	(-2,88; -0,13)	0,035
2	Post				
	Intervention	3,196(0,937)	2,89	(1,78;7,56)	0,000
	Control	0,526(0,287)	0,55	(-0,02;1,07)	0,332
3	Delta (Δ)				
	Intervention	4,548(0,951)	4,53	(2,34;3,733)	0,373
	Kontrol	1,641(0,547)	1,605	(0,63;3,33)	0,418

*) Based on the Shapiro-Wilk test. The data is normally distributed if p>0.05

Based on the calculations above, it is known that the intervention group has a p value <0.05, so it can be concluded that the intervention group data is not normally distributed. The control group data had a p value <0.05, so it could be concluded that the intervention group data were not normally distributed. For the paired test with an abnormal distribution using the Wilcoxon test while for the 2 groups different test with an abnormal distribution using the Mann-Whitney test. Comparison of cadre skill scores in the 2 groups can be seen in the table below:

Table 3. Comparison of Cadre Skills Scores in Recording and Reporting Data in the Two Research Groups

No	Skill	Intervention Group (n=60)		Control Group (n=60)		p-value*
1	Pre					0,051
		Median	-1,525	Median	-1,065	
		Range	(-2,75;1,42)	Range	(-2,88;-0,13)	
2	Post					<0,001
		Median	2,89	Median	0,55	
		Range	(1,78;7,56)	Range	(-0,02;1,07)	
Pre vs post			p<0,001**		p<0,001**	
Change (Δ)			4,548(0,951)	1,641	(0,547)	<0,001

*) by Mann-Whitney test; except for increment by unpaired t test

**) Wilcoxon test

Intervention/Control Increase Ratio = 4.548/1.641 = 2.77

4. DISCUSSION

Video is a learning and modeling medium in the observational learning process. Video is also a great communication channel to convey messages about innovation (Darmawati et al., 2023). Video on the use of iPosyandu which was developed according to the needs of cadres based on the results of FGDs with cadres and interviews with media experts so that it is hoped that there will be changes in the knowledge, attitudes, and skills of Posyandu cadres who watch the video (Adam et al., 2019).

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The results of testing the effect of the video using the iPosyandu application on the skills of Posyandu cadres yielded p<0.001, which means that the hypothesis is accepted and there is an effect of providing video interventions on the skills of Posyandu cadres in Jatiluhur District. The difference in the average skill score before and after being given the video also shows a significant value, from a mean value of -1.351 to 3.196 (can be seen in table 4.6), and the result is an increase of 4.548 (can be seen in graph 4.27). These results are in line with research on the effects of instructional videos on motivation and skills which state a significant increase in success (van der Meij et al., 2018).

The observational learning theory introduced by Bandura states that most of a person's knowledge and skills are obtained by observing other people directly. Individuals can learn from observing models while demonstrating something. Learning materials that are modeled directly are sometimes not enough to understand, therefore learning via video is developed aiming to develop certain knowledge, skills, and understanding through systematic design and the use of complete learning features (Rosen et al., 2010).

The use of iPosyandu videos makes it easier for cadres to imitate how to use the application as demonstrated by the animated model. In the research phase, when the cadres watched the video guide, the were in the cognition phase, saw the instructions, then stored them in memory to be repeated and practiced. Video as a medium for teaching skills in the field of e-learning continues to grow in observational learning which is also known as one of the most basic learning strategies but can have a significant effect (Hoogerheide et al., 2016).

Observational learning known as observational learning theory, also popularly known as Social Cognitive Theory (SCT) by Bandura states that the observational learning process can be through an observation of the behavior of other people or models, one of which is through indirect models with video media. Many studies have stated that video guides have been proven to have a positive effect on retention (absorption and reception) of information, as well as influencing respondent participation and increasing satisfaction in the experience of receiving information.

A person's skills can be seen from how well a person carries out a specific activity, as in this study, the indicators seen are how cadres can operate the iPosyandu application to record and report, communicate effectively and practice the steps for using the application. A skilled person will show a consistent degree of successful performance in achieving a goal effectively and efficiently.

Other research has also proven that videos can increase knowledge significantly and positively effect on changing attitudes. Video can be an alternative choice with all the limitations in the field compared to guides such as books which can be lost or damaged. The research results showed that there was an average significant difference between providing videos to the intervention group and giving modules to the control group on cadre skills, which can be seen in the increase in the value between the two variables, it is known that the increase in the value of the intervention group was 4.548 greater than the increase in the control group of 1.641 so that this suggests that the difference in skills before and after the video intervention is greater than that of giving the module. The results of this study are in line with Merkt's research which states that video learning can be compared or even superior to traditional textbooks (Merkt & Schwan, 2014).

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Dale stated that in learning, humans use 75 percent of the senses of sight (visual) and only 13 percent use the senses of hearing (audio), learning to use the senses of hearing and sight will be able to increase the absorption of information and ideas in learning messages by as much as 50 percent. Utilizing videos by incorporating ideas, thoughts, opinions and even new facts through communicative messages (persuasion) can affect the opportunities for the desired behavior change to occur as a result of learning.

This study uses the control group as a counter factual, the control group uses the module as a guide in using the iPosyandu application. The statistical results stated an influence on cadres' skills in using the iPosyandu application with a p value <0.001. The results of this study are in line with research regarding differences in the knowledge and skills of cadres using the module as a guide for using the iPosyandu application (Widarti et al., 2019). The increase in pre and post scores was 1.641, which was smaller than the increase in the effect of video on cadre skills. The difference test between the two groups stated that the use of video was more influential than the module. Concurrent research regarding the effectiveness of using videos and books in increasing knowledge and skills shows that using videos is more effective in increasing skills. To date, mixed results from empirical studies show that video tutorials outperform paper-based tutorials. Two successive experiments were conducted to examine the effect of tutorial type (video vs paper based) on task relevance, self-efficacy, mood, flow and task performance. Both studies also found a significant and substantial effect on task performance and more importantly, performance on this task also showed a significant interaction with video tutorial type. The success of video tutorials stems from their design and is a strong point compared to paper-based tutorials, while leveraging the power of video content as well (Worlitz et al., 2018).

Hoogerheide's research suggests that the use of video supports traditional learning in the acquisition and demonstration of cognitive, affective, and psychomotor skills. Hoogerheide stated that in recent decades, the use of instructional videos in education has massively increased, and because of this, instructional videos are currently considered one of the most popular ways of delivering instructions, but many factors are related to self-efficacy and skills in carrying out instructions. according to the video (Hoogerheide et al., 2014).

Factors that influence skills or behavior to do something new include age, education, and experience as internal factors such as motivation or self-efficacy (self-efficacy). According to Stalin, the principle of behaviorism theory is that all behavior must bear its consequences. Pleasant consequences or reinforcement (reinforcement) and unpleasant consequences or punishment (punisher) can weaken or even eliminate the behavior. Pleasurable reinforcement actions can be interpreted as any consequences that can strengthen or increase the frequency of one's behavior. Fun reinforcement actions can be primary, secondary and positive or negative reinforcement. Primary reinforcement actions satisfy basic human needs. While secondary reinforcement is the act of primary reinforcement or other secondary reinforcement that has been formed. There are three kinds of secondary reinforcement, including social reinforcement actions, for example, smile praise. Both secondary reinforcement actions are activities such as play. The third is the act of strengthening signs or symbols, for example, asterisks or points. Intrinsic reinforcement strengthens a person's behavior without expecting anything in return, while extrinsic reinforcement is a reward given to motivate people involved in the behavior.

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These consequences influence cadres in changing their behavior. Pleasurable reinforcement actions can be positive or negative. Positive reinforcement actions can be social or material. Positive reinforcement for cadres socially is by praising, and smiling when cadres' skills in collecting data using the iPosyandu application increase. Material reinforcement can be in the form of honorarium or certificate awards. This strengthening can increase the motivation of cadres in implementing iPosyandu.

Cadres are workers who come from the community, are elected by the community, and work together for the community who do not receive compensation for the activities carried out. According to the results of the study, cadres in Indonesia are voluntary cadres. There are fundamental differences between cadres in several countries who are paid and those who are voluntary, where voluntary cadres have the motivation to complete the assigned task, are collaborative, have a commitment to the community, and have autonomy or creativity in intervening. Loyalty and responsibility carried out by cadres come from motivation. Following the Motivation New Directions for Theory that motivation can represent a psychological process that causes responsibility and is the initial stage of the will to act to achieve goals. Responsibility is an obligation to carry out functions, both work, and confidence in the potential that is owned as well as possible. Intrinsic motivation of a cadre has more role than extrinsic motivation in carrying out a responsibility. Cadres do not expect intensive work because the motivation to work as a cadre is not to earn money. Motivation generates a desire in a person to perform various actions by the procedures that have been taught (Cooper & Higgins, 2015).

The characteristics of respondents in the iPosyandu guide video trial have an average age range of 36 – 45 years. The increasing age of a person will lead to increased physical and psychological maturity, including the ability to think and work. Mature age is the life span of a person with more and more experience, wider knowledge, deeper expertise, and better wisdom in terms of making decisions about their actions.

The results of the research on the characteristics of the respondents show that the average education of cadres is high school. Education affects a person in receiving and understanding information making it easier to do and adapt to new things. The higher a person's education, the easier it is to receive and understand information. The level of education is also associated with understanding in receiving information. The higher a person's education level, the easier it is to receive information. The level of formal education is not the only determining factor for the high skills of cadres because another factor is the interest and activeness of cadres (Setyowati & Listiyaningsih, 2018).

Research results show that cadres have an average experience of more than 3 years. Length of work is defined as the period or the length of time a worker works in a place. During the working time that is taken by someone in carrying out their duties, there will be many experiences and lessons that will be found. The longer a person works in an organization, the more experienced he will be so that his work skills will be better (Zhao et al., 2018).

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5. CONCLUSION

The results of the research which have been proven by statistical tests state that video affects increasing the skills of posyandu cadres in using the iPosyandu application. However, this research still has many limitations, one of which is that this research does not identify and analyze other factors that influence the skills of cadres.

6. CONFLICT OF INTEREST

The authors have no conflicts of interest to declare

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