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Digital communication in health promotion in handling tuberculosis sputum in the COVID-19 pandemic era

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Abstract: The Covid-19 pandemic that has caught the attention of not only Indonesia but the rest of the world. The 3M movement, namely using masks, washing hands and keeping a distance to minimize the transmission of tuberculosis, is very useful for the eradication of TB tuberculosis. However, this is a challenge in itself for microscopic officers at the Microscopic Reference Center (MRC) in education and handling of sputum for tuberculosis patients who are currently being treated. The purpose of this study was to test 4 (four) animated communication videos, namely VisKomLAM 1, 2, 3 and 4 in bridging communication between officers in sputum management education for tuberculosis sufferers at each arrival during the Covid-19 pandemic. The research locations took the Tuminting, Wawonasa and Tikala Baru MRC in Manado City and the Telaga MRC in Gorontalo Regency. Analysis with paired t-test showed a significance below 5%, which means VisKomLAM 1, 2, 3 and 4 can bridge education from officers to tuberculosis sufferers in the Covid-19 pandemic era. It is recommended that health workers always strive to improve tuberculosis health in achieving tuberculosis elimination by 2050.

Keywords: COVID-19; Tuberculosis Elimination; Health Promotion; Video Animation.

INTRODUCTION

In the current era of the Covid-19 pandemic, handling tuberculosis (TB) must remain a concern.[1,2,3] The World Health Organization (WHO) reports that Indonesia is in the third position with the highest cases of tuberculosis (TB) in the world. While the first and second positions are currently India and China.[4,5]

Large-scale restrictions on society due to covid-19 are very beneficial in the spread of tuberculosis in a large community, but the attention of the entire world community at this time, which is focused on covid-19 causes the elimination of public concentration, especially if you see cough for more than 2 (two weeks) that is an early sign / symptom of tuberculosis.[6,7] Early diagnosis in people with early symptoms of tuberculosis cannot be made quickly due to the pandemic.[8]

A good initial diagnosis is very much needed in increasing the Case Detection Rate (CDR) by paying attention to the pandemic area.[9,10] It is not only CDR that is disrupted during this pandemic, but also the Success Rate (SR) Tb.[11]

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This is not only health workers who are responsible for this, but also all parties. The obstacle identified was the limitation of community gatherings, which also made it difficult for officers to find TB sufferers quickly and increase the success of their treatment. It takes a wise way to deal with this.

Like it or not,[12,13] Pulmonary Tuberculosis Program (OPTP) officers are required to know how to use digital media facilities to fulfill program achievements,[14] including delivering detailed and correct education through messages to TB sufferers about the correct way to cough; collect purulent sputum; take medication regularly; regularly and return to check themselves at the appointed time play an important role in achieving tuberculosis elimination and increasing SR during the Covid-19 pandemic. Digital media is currently recognized as making it easier to serve health workers. This is not only the duty of the officers, but also the tuberculosis sufferers themselves, cadres, household members, treatment reminders (PMO) and officers in health services.

MATERIAL AND METHOD

2.1. Research design

This research is an action research that uses applied design with the main objective to facilitate social change. Ethics certificate is issued by Health Research Ethics Committee Health Polytechnic of the Ministry of Health, Manado number KEPK.01 / 03/043/2021.

2.3. Population and sample research

Population : TB sufferers; cadre; Direct Contact; and Microscopic Officer at MRC Tuminting; Wawonasa; Tikala Baru Manado City and MRC Telaga Gorontalo District

Sample : each type of population was taken 5 for each MRC

2.4. Materials and research tools

VisKomLAM 1 : During the first sputum inspection when the suspect Tb. The emphasis is on sputum collection, because it is their first time doing ARB examinations, plus the mandatory return after undergoing treatment for the second month. Of course other health promotion is also important.

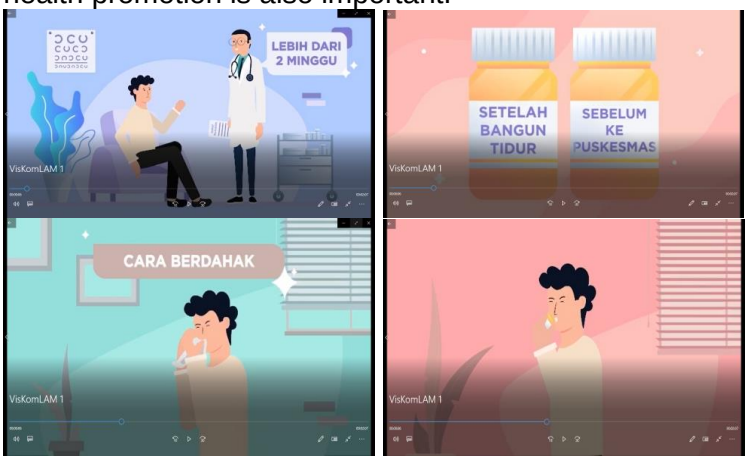

Figure 1. Some of the scripts on VisKomLAM 1

VisKomLAM 2 : At the second sputum examination, after 2 months of treatment. The emphasis is on having to return to the sputum examination after undergoing the fifth month of treatment, because by the fifth month of treatment, the patient feels very healthy.

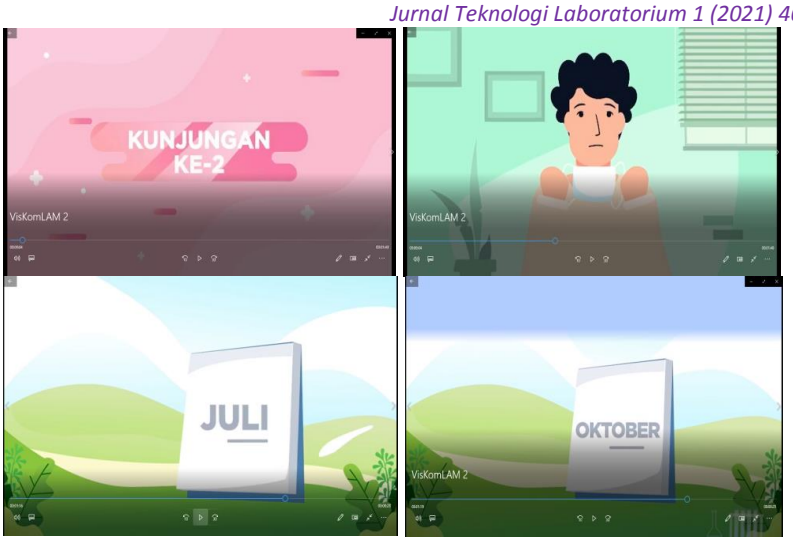

Figure 2. Some of the scripts on VisKomLAM 2

VisKomLAM 3 : At the third sputum examination, after 5 months of treatment. It is mandatory to return after undergoing treatment is complete, because when the treatment is complete, the patient feels that he does not need another examination. In some cases, there are sufferers who require further treatment for two months.

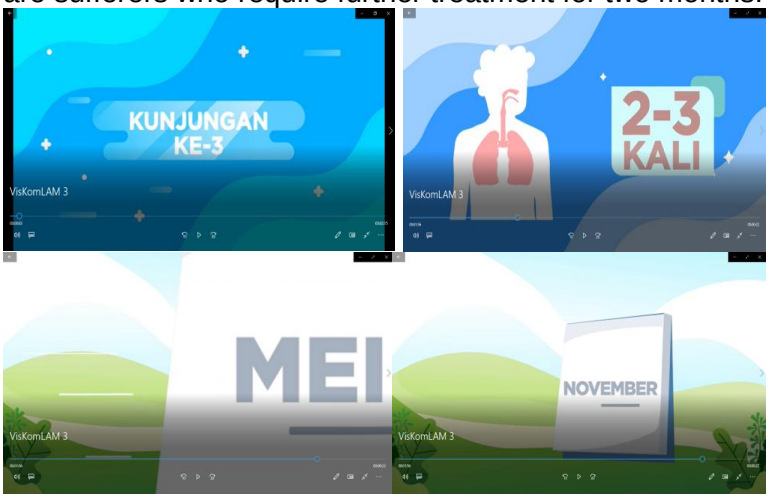

Figure 3. Some of the scripts on VisKomLAM 3

VisKomLAM 4 : At the fourth sputum examination, at the end of 6 months of treatment. It is obligatory to carry out a sputum examination while maintaining a clean and healthy lifestyle. The important thing to overcome the stigma in society is that tuberculosis is a disease that can be cured, "I am an example".

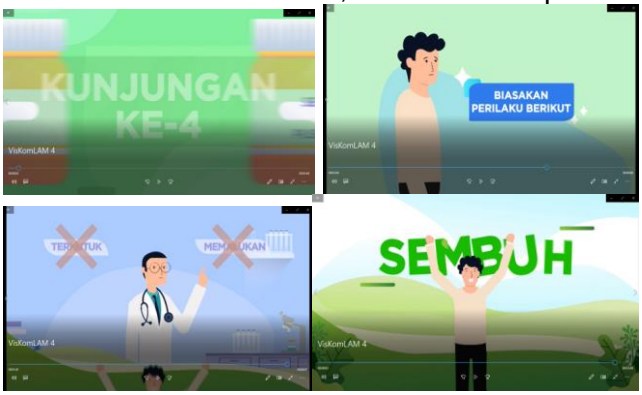

Figure 4. Some of the scripts on VisKomLAM 4

2.5. Collection / research stages

1) Out of 4 (four) ARB, namely 3 in Manado City and 1 in Gorontalo District, each is taken :
   5 respondents suspect
   5 respondents 2 months treatment
   5 respondents 5 months treatment
   5 respondents completed 6 months of treatment
2) Given a pretest
3) Watch the video based on the respondent's visit category
4) Given a post test

2.6. Data analysis

Univariate data analysis used descriptive and multivariate using t paired test

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RESULTS AND DISCUSSION

Tuberculosis is an almost neglected disease during the Covid-19 pandemic, this can be seen from the decrease in Case Rate Detection (CDR) in 2020.[5] The stigma of being infected with COVID-19. this requires attention in TB research and funding.[15]

When someone with a cough for more than 2-3 weeks comes to the MRC and is referred to a BTA sputum examination, they should receive education on how to collect purulent sputum, how to collect it in a pot.[1,16,17] Online communication using digital communication is a current solution that can be taken as a bridge between officers and sufferers.[18] This can be seen from the increase in respondents' knowledge and understanding after watching VisKomLAM 1 with a significance of 0.000 (table 1).

After undergoing treatment for 2 (two) months, the TB patient came to the MRC to do another sputum BTA examination. Education about taking medicine regularly, periodically changing sleeping equipment, maintaining air circulation and the sun in the room and at home, exercising regularly and having a clean and healthy lifestyle, eating nutritious food and returning to the next examination after five months of treatment.[19] The significance of 0.000 in 2 MRCs, namely Wawonasa Kota Manado and Telaga Kabupaten Gorontalo for MRC Tuminiting 0.020 and Tikala Baru 0.010 in increasing the knowledge and understanding of respondents after watching VisKomLAM 2 (table 1).

At 5 months of treatment, TB sufferers must come even though they do not feel any pain so that cases do not drop out.[20] Microscopic officers still have to educate about symptom recognition, how to cough properly, handle sputum, take medication regularly, periodically change bedding, maintain air and sun circulation in the room and house, exercise regularly and have a clean and healthy lifestyle as well. eat nutritious food through getting to know the nutritious menu and must return at the end of treatment, which is the sixth month. Increased knowledge and understanding of respondents after watching VisKomLAM 3 can be seen the significance level in 3 MRCs in Manado City 0,000; 0.010 in MRC Telaga Gorontalo District in increasing knowledge and understanding after watching VisKomLAM 3 (table 1).

After 6 months of treatment, TB sufferers are required to be examined at the MRC to ensure a negative smear sputum result. Microscopic officers still have to educate about symptom recognition, how to cough properly, handle sputum, take medication regularly, periodically change bedding, maintain air and sun circulation in the room and house, exercise regularly and have a clean and healthy lifestyle and eat. nutritious food through knowing nutritious menus and breaking the stigma of society that TB is a curse disease and cannot be cured and the proof is that I am already cured.[21] In table 1, it can be seen that the significance at 4 MRCs is below 0.05: PRM Wawonasa 0.0180; Tuminting

0.0200; Tikala Baru and MRC Telaga Gorontalo District 0.0010 after watching VisKomLAM 4.

Table 1: Significance of VisKomLAM 1, 2, 3 and 4 in 4 PRM

Significance	Microscopic Referral Health Center (MRC)			
	Wawonasa	Tuminting	Tikala Baru	Telaga
VisKomLAM 1	0.000	0.000	0.000	0.000
VisKomLAM 2	0.000	0.020	0.000	0.010
VisKomLAM 3	0.000	0.000	0.000	0.000
VisKomLAM 4	0.180	0.020	0.010	0.010

Preventing TB patients from becoming MDR[22] can be done using digital communication,[23] as well as increasing CDR and SR TB in the Covid-19 pandemic era which can be bridged with VisKomLAM 1, 2, 3 and 4 digital communications.

CONCLUSION

Digital communication using VisKomLAM 1, 2, 3 and 4 in the era of the Covid-19 pandemic in handling sputum, how to cough properly, taking medication regularly, periodically changing sleeping equipment, maintaining air and sun circulation in the room and house, doing sports regularly and behave in a clean and healthy life as well as eating nutritious food through knowing a nutritious menu is very helpful in bridging communication between microscopic officers and TB sufferers.

AUTHORS' CONTRIBUTIONS

All authors contributed equally to this work.

FOUNDING INFORMATION

The funding for this research was sourced from the Health Polytechnic of the Manado Health Ministry.

DATA AVAILABILITY STATEMENT

The utilized data to contribute to this investigation are available from the corresponding author on reasonable request.

DISCLOSURE STATEMENT

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors. The data is the result of the author's research and has never been published in other journals.

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