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**EFFECTIVENESS OF COUNSELING USING *LINE* AS SOCIAL MEDIA
APPLICATION ON THE KNOWLEDGE OF DENTAL AND ORAL
HEALTH MAINTENANCE**

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ABSTRACT

Background: Oral health is an integral component of public health. The incidence of oral disease is mostly due to neglected oral hygiene factors, especially in adolescents who begin to develop more independence and self-care responsibilities including oral and dental hygiene that are effectively managed by themselves instead of their parents. Therefore, this period requires proper direction for adolescents as a form of prevention in maintaining oral health. However, during the Covid 19 pandemic, direct outreach activities were avoided so that Line as social media application was used to overcome obstacles in delivering counseling materials. **Purpose:** To analyze the effectiveness of outreach using Line as social media application for students at SMP Negeri 1 Rantau, Tapin Regency. **Methods:** Using true experimental design with pretest-posttest design with control design with simple random sampling technique. The research was conducted at SMP Negeri 1 Rantau Tapin Regency with a sample of 114 respondents. **Results:** The Wilcoxon test in the poster intervention group obtained a significance value of 0.003 <0.05 and the poster intervention 0.015 <0.05, Referring that there was a difference in knowledge between before and after counseling. While the control group obtained a significance value of 0.619 > 0.05, referring that there was no difference in knowledge between before and after counseling was given. **Conclusion:** counseling using Line as social media application is effective in increasing knowledge of oral health maintenance.

Keywords: adolescent, counseling, oral health, social media

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INTRODUCTION

The incidence of oral disease is largely due to lack of awareness in maintaining oral hygiene.¹ Basic Health Research in 2018 states that the age group of 10-14 years old had dental and oral problems of 55.6%. Most of them did not receive dental care but only 9.4% did the treatment. Of all adolescents in the 10-14 age range, 96.5% had the habit of brushing their teeth daily, but only 2.1% brush their teeth on time.²

Adolescence is a crucial period of significant intellectual, social, emotional and cognitive improvement and development so the level of curiosity is high. Early teen stages in transition periods that were generally in the 12-15 age range.³ Adolescents begin to develop more independence and self care responsibilities such as dental and oral hygiene that are being effectively managed by themselves, and no longer by parents.⁴ Therefore, this period requires proper oral care instruction in adolescents as a form of prevention through counseling. Dental and oral care counseling is

expected to be able to increase the knowledge and awareness that is the basis for changing individual behavior towards healthy behavior.¹

Activities such as direct outreach are currently avoided to prevent the further spread of Covid 19. The Covid 19 pandemic had a direct impact on the learning process in schools and universities requiring cessation of its activities. The world organization UNESCO supports the use of online resources in the learning process to reach teachers and students from a distance.⁵ Therefore, to overcome the limitations of direct activities, extension efforts are made through means online such as social media.

Social media is connected to the internet and allows its users to be interconnected so that they can access a wide range of information without limited place and time thus creating new forms of social interaction and social organization.⁶ The most popular social media in the world is Line with more than 470 million users since it's launch.⁷ In Indonesia using Line as social media application is very popular with 30 million accounts that making

Indonesia at the second country with the highest Line Users in the world.⁸ Line users are generally teenagers with an age range between 13-25 years. Through using Line as social media application, the limitations of distance, time, and cost can be overcome. The features available in Line can be used as a medium of communication and interaction with fellow users even in different places.⁹

Therefore, researchers are interested in analyzing the effectiveness of counseling using Line as social media application on dental and oral health maintenance knowledge in adolescents at the time constraints of the Covid 19 pandemic.

MATERIAL AND METHODS

The research method is true experimental design with pretest-posttest design with control design which had obtained ethics by the Health Research Ethics Commission, Faculty of Dentistry, Lambung Mangkurat University No. 014/KEPKG-FKGULM/EC/II/2021. The research took place in SMP Negeri 1 Rantau Tapin Regency on February-March 2021 with a student population of SMP Negeri 1 Rantau as many as 474 people. A large research sample of 114 students was taken through simple random sampling and determined based on inclusion and exclusion criteria obtained from the calculation using a categorical comparative formula and the number of samples was corrected with a predicted sample percentage of drop out 5%. The inclusion criteria in the study were adolescents aged 12-15 years, cooperative, have a mobile phone and internet quota, and parents/guardians are willing had to fill out informed consent. Then, the exclusion criteria in the study and children with health not endorse (sick) and not ready to take part in posttest. Respondents who met the criteria were divided into three groups, namely 38 students in the intervention group using the Line feature to share picture in the form of infographic posters, 38 students in the intervention group using the Line feature to share video in the form of educational videos and 38 students in the control group which were not given counseling. Each group is invited in one Line group. Counseling was performed using Line as social media platform by utilizing benefits of groups features as well as sharing images. in the form of infographic posters and videos. The material were distributed per day. Throughout the counseling period that was conducted for five days. The knowledge of dental and oral health care was measured using a questionnaire consisting of 8 multiple choice questions. Then, the results were calculated and

defined in the following criteria: good criteria 76%; moderate criteria 56-75%; and bad criteria 55%. Knowledge measurement was done before counseling with *pretest* in all three groups through google form. On the first day of counseling, they were given material on things to look for before brushing their teeth. The second day of counseling was given materials of brushing time, brushing sequence, brushing techniques and cleaning the tongue. The third day of counseling was given materials for the use of mouthwash. The fourth day of counseling was given materials for the use of dental floss. The fifth day of counseling was given material on cariogenic and noncariogenic foods. After the counseling was conducted for five days, knowledge was measured by posttest using a questionnaire of 8 multiple choice questions through google form in all three groups. The results of knowledge measurement were then analyzed by univariate and bivariate. Univariate analysis serves to summarize and analyze the variables of measurement results, while bivariate analysis to see the comparison of paired data with two measurements before and after counseling in the form of pretest and posttest with ordinal data scale using Wilcoxon test.

RESULT

This study was conducted on 114 respondents consisting of 36 male and 78 female students of SMP Negeri 1 Rantau in the age range of 12-15 years old with 9 students aged 12 years (7,9%), 35 students aged 13 years (30,7%), 46 students aged 14 years old (40,35%) and 24 students aged 15 years old (21,05%). Respondents with the aged of 14 years were the most and the age of 12 years the least in the study. As many as 28 respondents were students from class 7 (24,56%), 44 students from class 8 (38,6%) and 42 students from class 9 (36,84%). Most respondents came from grade 8 and as many as 28 Respondents were students the least was from class 7. The results of knowledge measurement in the form of pretest are presented in table 1. This table shows the knowledge before counseling in the poster intervention group with 38 respondents before being given counseling using Line as social media application in which the lowest result comprised of 4 students (10,53%) who obtained good criteria, while the highest result where 20 students (52,63%) to be categorized in moderate criteria. Then the knowledge in the video intervention group with the total respondents of 38 student, before being given counseling using Line as social media application at most respondents obtained good criteria 19 students (50%), while the least obtained bad criteria 9 students (23,69%) and the control group without being given counseling

with the total repondents of 38 student, the results were obtained good criteria at least namely 4 students (10,53%) and the moderate criteria at most namely 21 students (55,26%).

Table 1. Results of Knowledge Measurement Before Outreach Using Social Media Line (Pretest)

Group	Criteria n (%)			N
	Good	Moderate	Bad	
Intervension (Poster)	4 (10,53)	20 (52,63)	14 (36,84)	38 (100)
Intervension (Video)	19 (50)	10 (26,31)	9 (23,69)	38 (100)
Control	4 (10,53)	21 (55,26)	13 (34,21)	38 (100)

The results of measuring knowledge after counseling in the form of postest are presented in table 2. The knowledge in the poster intervention group with 38 respondents after being given counseling using Line as social media application obtained the most data on good criteria there are 19 students (50%), while the least are in the moderate criteria comparing of 8 students (21.05%). Then the knowledge of the video intervention group with 38 respondents after being given counseling using Line as social media application obtained data on good criteria at most 20 students (52.63%) and at least on bad criteria there are 3 students (7.9%). In the control group without being given counseling with the total repondents of 38 students obtained the results of the most on bad criteria 19 students (50%) and the least with good criteria as many as 6 students (15.79%).

Tabel 2. Results for the Measurement of knowledge and Education Using Social Media Line (Postest)

Group	Criteria n (%)			N
	Good	Moderate	Bad	
Intervension (Poster)	19 (50)	8 (21,05)	11 (28,95)	38 (100)
Intervension (Video)	20 (52,63)	15 (39,47)	3 (7,9)	38 (100)
Control	6 (15,79)	13 (34,21)	19 (50)	38 (100)

Figure 1 shows the counseling group with poster undergoing changes in each criteria.

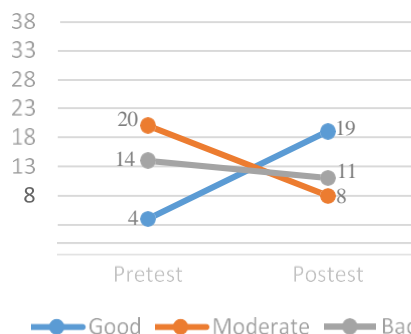


Figure 1. Graph of pretest and postestof poster intervention group

The increase and decrease of each criterion in the intervention group with video are presented in figure 2.

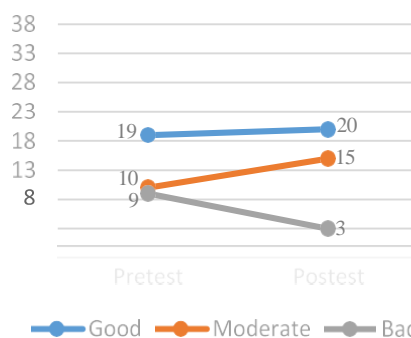


Figure 2. Graph of pretest and postestof video intervention group

The change of each control group criteria can be seen in figure 3.

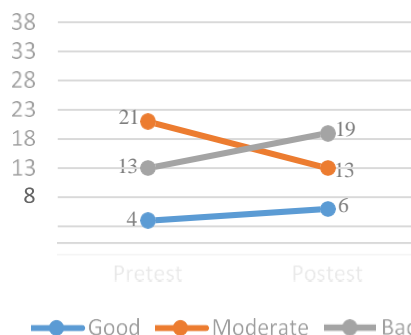


Figure 3. Graphs of pretest and postest of the control group

Table 3 shows that the results of the Wilcoxon test of the poster intervention group which obtained a significance value of $0,003 < 0,05$ implying that there is a difference in knowledge between pretest and posttest. Furthermore, the video intervention group which obtained a significance value of $0,015$

<0,05 which H_0 decision was rejected so that there is a difference in knowledge between pretest and posttest. The control group without counseling obtained a significance value of 0,619 > 0,05 H_0 decision was accepted which meant that there is no difference in knowledge between pretest and

posttest. Knowledge in both intervention groups before and after counseling had a difference with the increase in knowledge, while there was no difference in knowledge pretest and posttest by the control group.

Table 3. Wilcoxon Test Analysis of Comparative Before and After Counseling in the Intervention Group and the Control Group

		Mean Rank	p value
Pretest-posttest poster intervention group	Negative Ranks	11,33	0,003
	Positive Ranks	21,48	
Pretest-posttest video intervention group	Negative Ranks	10,44	0,015
	Positive Ranks	14,86	
Pretest-posttest control group	Negative Ranks	13,18	0,619
	Positive Ranks	16,55	

DISCUSSION

Counseling was a learning effort so it is expected that there will be a change in knowledge and awareness of respondents to achieve certain conditions, both individually and in groups in behaving healthy and maintaining healthy behaviors that have existed to continuously maintain dental and oral health.¹⁰ Researchers shared material on the maintenance of dental and oral health through social media Line feature share picture in the form of a poster. Posters in Sumartono and Astuti (2018) are media that display objects with a combination of visual elements such as images, lines, and interesting sentences with the aim of conveying a brief message.¹¹ According to Harsismanto (2019), extension with poster has the advantage of being equipped with pictures and colors that attract attention so that respondents interest in reading the material increases and facilitates understanding.¹² If compared with the pretest then there is an increase with good criteria of 39,47% which means there is an increase in knowledge in the poster intervention group. Previous research by Sukarsih and Silfia (2020) on the counseling of how to brush teeth with posters there was an increase of 52,94% between before and after the counseling.¹³ This is in accordance with Linasari (2017) using counseling with posters containing dental caries material has a significance value of 0,000 < 0,05 so that counseling using posters effectively increases students knowledge of dental caries.¹⁴

The video intervention group when compared to the *pretest* there was an increase in both criteria of 2,63% and an increase of 13,16% in the moderate criteria. The increase in good and moderate criteria does not seem far due to the pretest of this group has

obtained a high enough score so that the values that are in the good and moderate criteria are quite numerous. This is in accordance with the research of Sari (2017) explained that knowledge about cariogenic foods at high criteria increased by 20,8% after being given counseling using video.¹⁵ According to Mawan (2017) video can explain the material systematically and realistically so as to give a deep impression in the memory so as to facilitate the absorption of information.¹⁶ Hanif and Prasko (2018) in their research support that knowledge after counseling using video on dental and oral health increased with the acquisition of a significance value of 0,000 < 0,05.¹⁷ Counseling with video provides a complete, fun, not monotonous and repetitive learning experience. According to Antari (2020) video provides a concrete experience because it combines both senses of sight and hearing so that a person obtains a glimpse of a more complete information, the delivery of information is more real and well understood can increase the enthusiasm of respondents.¹⁸

Researchers measured initial knowledge in the form of pretest in the control group without being given counseling. Pretest control group performed the same day with pretest intervention group. Furthermore, the respondents were not given counseling for five days until the counseling time in the intervention group ended, then the final knowledge measurement was performed in the form of posttest together with the intervention group after the counseling was completed. If compared with the pretest then there is an increase with good criteria of 5,26%, this is in line with the opinion of Sari (2018) That in the developmental stage, the curiosity of adolescents is high so that adolescents try to dig information to complete a curiosity.¹⁹ Then, there is

an increase of bad criteria of 15,79% which can be attributed to Sujarwo (2017), pretest term given will be stored in shortmemory that lasts only 30 seconds once the information is received, if the information is not repeated or not further processed because lack of attention of the respondents then the pretest received is forgotten so that when filling the posttest the respondents answer is inconsistent and has an impact on devaluation.²⁰According to Ramdoni and Fahrudin (2020) there is no statistical difference between the initial and final measurements in the control group because no counseling was given so that knowledge remains constant.²¹

Changes in the knowledge of both intervention groups with increased knowledge is due to the provision of interventions using social media Line feature share picture in the form of infographic posters and feature share video,. Through using Line as social media application, existing barriers such as cost, time and distance can be overcome especially during the Covid 19 pandemic to avoid direct activity. The features available in Line can be used by users as a medium of communication and interaction with fellow users even in different places. Line can be accessed free of charge on the device and connects between users in real time to send messages and reply at the same time. The group feature in Line application connects users through a discussion forum and enable users to exchange information such as counseling materials that can reach respondents.^{8,9}The sharing feature of pictures and videos is useful for sharing counseling materials in the form of posters and educational videos via groups. The conclusion of this study is that counseling using social media Line effectively improves the knowledge of dental and oral health maintenance.

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