

## Education Using Animated Videos and Leaflets on Preventing The Risk of Nomophobia in High School Adolescents

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### ABSTRACT

**Background:** Nomophobia is an experience due to not being able to use a mobile phone. Nomophobia can be caused by excessive use of mobile phones with a duration of >3 hours/day, and most of the sufferers are junior high school students.

**Purpose:** To describe the effectiveness of education using animated videos and leaflets on preventing the risk of nomophobia among junior high school adolescents in South Jakarta.

**Methods:** Quasi-experimental with a pretest-posttest used in control group to determine the effectiveness of adolescent education with the risk of nomophobia at SMPN 218 Jakarta and SMP PGRI 12. The sample size was 45 respondents.

**Results:** There was a significant difference in reducing the risk of nomophobia before and after interventions, in the intervention group with. A significant decrease also occurred between the intervention group and the control group before and after the intervention with a difference mean score (6.33 points). The difference between the two groups was substantially significant to the possibility of reducing the incidence of nomophobia in adolescents with a value of p-0.041.

**Conclusion:** Using different educational methods, such as inviting respondents to do positive thing to reduce the perceived gadget addiction.

**Keywords:** Education; Video; Leaflet; Nomophobia; Adolescents.

## BACKGROUND

The use of mobile phones today has both positive and negative impacts on its users. Excessive use of mobile phones can cause physical changes such as stiff neck conditions due to lack of movement, back pain, dizziness, fatigue, and also the onset of diseases such as (diabetes), immune disorders, visual impairment, and brain tumors. Emotionally, it can also cause moodiness, anxiety, restlessness, and irritability (Fithriyah, 2020).

Nowadays, the use of cell phones has been used from all circles, not only adults but young people and even children can play cell phones. Based on survey by the Internet Service Providers Association, (2022) that the device widely used to access the internet at the age of 13-18 years is a mobile phone of 90.61%. The results of Kominfo, 2017 survey obtained data that from 6246 samples obtained smartphone users at the age of 9-19 years by 65.34%, 20-29 years of age by 75.95% and at the age of 30-49 years by 68.34%. Based on the level of education, it was found that the use of mobile phones in the \$2 \$3 category was 100%, Diploma/S1 was 93.02%, SMA was 79.56% and SMP was 59.89% (Publik et al., 2017).

The study conducted by Kominfo, (2014) found that the reasons why teenagers often access the internet are to find information, communicate with friends and entertainment when bored. Information is usually sought to fulfill school assignments, while the use of social media and entertainment content is a personal need.

The excessive use of mobile phones has several terms, namely mobile phone addiction, smartphone addiction and nomophobia (Fithriyah, 2020). Nomophobia (No-Mobile-Phone Phobia) is a term that describes a person's fear condition that arises when they cannot be close to a cell phone. This disease causes the sufferer to always attach importance to the cell phone (Tim Penulis RH, 2017).

Sebayang et al, (2018) explained that adolescence in psychological science known as pubertit, adolescence, and youth. Adolescence comes from the "adolescere" which means experiencing growth and development towards a t direction. In accordance with the growth and development from childhood adulthood, new developmental tasks will appear. Adolescents who experience growth and development usually experience physical changes, emotional changes, personality changes. Unicef, (2021) argues that the changes experienced adolescents make adolescents vulnerable to psychological disorders, for example anxiety. Based on data from Unicef Indonesia, it is found that 10-19 year old prone to anxiety disorders and behavioral disorders.

Based on the problem or exposure above Research and Development Agency of the Ministry of Home Affairs, (2019) 40 to 60 percent visual impairment problems experienced in a person are caused by excessive use of mobile phones, sufferers complain of eye pain, and lack of focus. This condition results in a decrease in the productivity of adolescents, which will make it difficult for them to carry out their daily functions, especially at school or at home.

Based on previous research, namely from Riyanti et al, (2021) on the description of nomophobia in adolescents, the researchers concluded that of the 310 students who were respondents, 132 students (42.6%) experienced mild nomophobia, 45 students (14.5%) experienced moderate nomophobia and 133 students (42.9%) experienced severe nomophobia. In conclusion, half of the adolescents who became research respondents

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experienced severe nomophobia, so it is necessary to recommend actions to overcome nomophobia including health education about the impact of nomophobia.

Therefore, researchers as prospective professional nurses who have the duty and function of advocacy want to carry out and follow up on the results of this study considering that data from the central statistics agency of DKI Jakarta province in 2022 found that users of technology, information and communication based on administrative areas were most numerous in South Jakarta with the highest internet users at 90.1% (Gautama, 2022). High internet use results in the incidence of eye pain called computer vision syndrome or eye fatigue, so that the eyes feel tired which will later result in decreased growth and development in adolescents (Aziz, 2022).

## **OBJECTIVE**

To describe the effectiveness of education using animated videos and leaflets on preventing the risk of nomophobia among junior high school adolescents in South Jakarta.

## **METHODS**

The study used quantitative research methods with a Quasi Experiment research design. The quasi-experimental design used is a pretest-posttest control group design where there are two groups then given a pretest to determine the difference in initial conditions between the intervention group and the control group. The intervention group will be given education with animated videos and leaflets while the control group is only given leaflet media without education, after being given treatment or intervention, a post test will be conducted on both groups.

Inclusion criteria: adolescents at SMP 218 Jakarta and SMP PGRI 12, adolescents aged 13-15 years. With random sampling method. Exclusion criteria: adolescents aged 15 years and over, adolescents who are not willing to fill out the questionnaire. Data collection until the preparation of the results of this study was carried out from March- April.

This study uses two variables. The independent variable is education. The dependent variable is nomophobia which is categorized into: high risk of nomophobia, if score mean, low risk of nomophobia, if score mean. Instrumen penelitian menggunakan kuesioner *Nomophobia Questionnaire* (NMP-Q). The research instrument used the Nomophobia Questionnaire (NMP-Q). The questionnaire used a linkert scale with five answer criteria, namely from I "Never", 2 "rarely", 3 "sometimes", 4 "often", 5 "Always". The Nomophobia Questionnaire (NMP- Q) has been tested for validity and reliability with the results of 20 valid questions with reliable results  $r = 0.869$ . Data analysis carried out includes univariate analysis aimed at explaining or describing the characteristics of each research variable. In general, this analysis only produces the distribution of frequencies and percentages of each variable (Notoatmodjo, 2018) and bivariate analysis using paired t test and independent t test.

## **RESULTS**

Based on the results of data collection and analysis that has been obtained, the conclusions of the results of this study are obtained in the explanation below:

**Table 1.** Frequency distribution of respondents' characteristics of animated videos and leaflets in the intervention group and control group in April 2023 (n=45).

Characteristics	Intervention group (education with animated video and leaflet) n=45		Control group (education with leaflet) n= 45		p-value
	F	%	f	%	
Age					
13 year	17	37,8%	16	35,6%	0,046
14 year	23	51,1%	16	35,6%	
15 year	5	11,1%	13	28,9%	
Gender					
Female	28	62,2%	26	57,8%	0,728
Male	17	37,8%	19	42,2%	
Class					
7	15	48,9%	22	33,3%	0,276
8	23	51,1%	13	28,9%	
9			17	37,8%	

Based on the table above on 45 junior high school adolescents in South Jakarta who were divided into control and intervention groups, it was found that the highest age in the intervention group was 14 years old as many as 23 students or 51.1%. In the control group, the highest age was 13 and 14 years old as many as 16 students or 35.6%. In the intervention group, female gender was more than male as many as 28 students or 62.2% and in the control group female gender was 26 students or 57.8%.

The results of characteristics based on class in the intervention group were mostly grade 8 with 23 students or 51.1% and in the control group most of the grade 7 with 33.3%.

**Tabel 2.**

The difference in mean nomophobia risk scores before and after the study intervention by applying education using animated videos and leaflets between the intervention and control groups March-April 2023 (n=45).

Variables	Before education			After education			p value
	0 months			1 months			
	Median	Mean (SD)	Standar deviation	Median	Mean	Standar deviation	
Nomophobia mean risk score Intervention group with animated video and leaflet (n=45)	56	54,29	13,495	45	45,16	14,245	0,001
Control group with leaflet (n=45)	52	51,02	14,132	52	51,49	14,761	0,481
P value	0,369			0,041			

It is known that the results of nomophobia risk education in the control group with a p value of 0.481 and for the results of nomophobia risk education in the intervention group with a p value of 0.001. The results of data analysis in table 2 The difference in the mean score of nomophobia risk before and after the research intervention by applying education using animated videos and leaflets between the intervention and control groups in March-April 2023 proves the acceptance of the first and third research hypotheses, namely:

The mean Nomophobia risk score was lower in adolescents after receiving education with animated videos than before the research intervention with a p value= 0.001. A significant decrease also occurred between the intervention group and the control group before and after the research intervention with a difference in the mean score (6.33 points). The difference between the two groups was substantially significant for the possibility of reducing the incidence of nomophobia in adolescents with a p value=0.041.

## DISCUSSION

In the research of Fadhilah et al, (2021) it is explained that nomophobia among adolescents is a phase where individuals are able to understand new technology quickly. but the characteristics of adolescents tend to have less self-controlling them vulnerable to nomophobia. In addition, the intensity of cellphone use can also affect a person experiencing nomophobia. According to research by Syazaid et al, (2022) the impact of Nomophobia cannot be underestimated because it can affect emotions, so it must be addressed immediately.

Therefore, researchers use education with animated video methods and leaflets to reduce the risk of nomophobia in adolescents. Based on research by Ajeng et al, (2018) education with videos is effective in increasing knowledge compared to leaflet media even though it has not been able to increase changes in adolescent behavior, especially about awareness. According to Tindoan, (2018) it is said that education with video is more effective in increasing adolescents' knowledge and attitudes, especially on exposure to pomography compared to leaflet media.

According to Edgar dale in Izzati et al, (2023) videos have a higher effective level than leaflets. Video makes someone more focused because it combines two senses, so they can imagine an action more clearly.

In the descriptive data results of this study, it can be seen that the level of risk of nomophobia before being given treatment in the intervention group has a significant difference in average values. The descriptive results of the study found that there was a significant difference in reducing the risk of nomophobia before and after education with animated videos and leaflets in the intervention group with (p=0.001).

In accordance with the principles of education in the theoretical review of chapter two, the use of simple, easy-to-understand language, interesting props, and equating counseling material with the respondent's situation increases motivation to do good behavior. This is an indicator of the success of education using animated videos and leaflets in this study.

According to Wahyu et al, (2022) education using leaflet media has advantages in its preparation, namely that it can be arranged as interesting as possible, in sequence, and with language that is easy to understand, but the disadvantages can only be read. So that at the post-test, the control group who received education only using leaflet media increased their knowledge lower than the intervention group who received education using animated videos.

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The results obtained at the level of risk of nomophobia for the control group before and after being given education using leaflets have a change in the average pretest value of 51.02 and for the post test value of 51.49. The p value result is 0.481 which means  $> 0.05$ , so it is stated that there is no significant difference in the control group before and after treatment.

Based on the theory in chapter two about the factors that influence education, it is found that the motivation that exists in the client can lead to the success of education. The use of leaflets that are not attractive and only display the core material will not increase the motivation of adolescents to reduce gadget use. The characteristics of adolescents who want to be free also make educational media with leaflets ignored because of the desire of adolescents who still want to explore a lot of information from various places using smartphones.

According to Artawan, animated video media has several advantages and disadvantages. The advantages possessed are the main factors that make education effective, namely: increasing students' interest in listening to and seeing explanations because animated videos are equipped with sound and images that are more interactive so that they attract students' attention (Khairiah et al., 2022).

Judging from the results of research data and data analysis, it is explained that there is a difference in the score of students' nomophobia risk level using animated videos and leaflets in the intervention group. This can be seen from the results of the analysis of the average posttest value (after being given treatment in the form animated video learning media and leaflets) of 45.16 with the pretest value (before being given treatment in the form of education using animated videos and leaflets) in the intervention class which is 54.29. This is also evidenced by the results of the paired t-test analysis conducted, seen from the large p value of 0.000 which means  $< 0.05$ , so it is stated that there is a significant difference in the intervention group before and after. The experimental group had a significant difference in reducing the risk of nomophobia before and after education with animated videos and leaflets because animation is an interesting and adaptable form of audio-visual expression, it is very effective in combining images and sounds to move together to explain a material to convey information.

The results of this study are also significant with the research of Ompi & Sompie, (2020) found that based on the questionnaire all respondents felt easier to know and understand the influence of gadgets after getting education with animated videos. The use of videos is more effective in attracting attention and interest in knowing the influence of gadgets on children. Based on the journal Prawesthi et al, (2021).

It is also said that animated videos are very effective in increasing knowledge related to the positive effects of using dentures. Animated videos are very well used as educational media because they provide information in the form of text, images, audio that attracts respondents' attention and increases understanding compared to leaflets that only contain images and text.

Based on Piaget's theory (1927) of cognitive development, adolescents adapt by assimilation, where adolescents incorporate new information into their knowledge, and accommodation, where adolescents adjust themselves to new information, it can be a factor for adolescents to be able to receive information both quickly and slowly because the adjustment of information obtained by each individual is different. Adolescents are able to imagine situations or recreations of events and try to process with logical thinking. Based on this statement, it can be seen that with animated videos, adolescents can imagine situations

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and events more clearly, which can also increase adolescents' understanding compared to educating adolescents only with leaflets in the form of short text and few pictures.

Based on observations, respondents who received education using animated videos paid 100% attention to the material presented, while respondents who received education with leaflets only skimmed and then folded the leaflets given. During the evaluation, the intervention group could answer all the material presented while the control group was only partially able to answer the questions given. Based on the analysis of the researchers, factors that influence adolescent development can be seen from group factors, in the intervention group when I friend pays attention to the material the other friends pay attention, while in the control group when I friend reads the others talk so that it disturbs the concentration of his friend.

## CONCLUSION

The results proved the hypothesis that there was a lower average nomophobia risk score in adolescents after receiving education with animated videos than before the research intervention, this was because the animated video educational media attracted the attention of adolescent high school students so that the material was conveyed and easily understood and the average nomophobia risk score was lower than before the intervention. The nomophobia risk score was lower in adolescents who received education with animated videos and leaflets than adolescents who only received education with leaflets.

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