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Research Article

The Effect of Health Education Video Based on Islamic Purification Jurisprudence on Handwashing Intention

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ABSTRACT

This study aimed to determine the effectiveness of health education videos based on Islamic purification fiqh on students' intention to wash their hands using and buying clay soap by applying the theory of planned behavior. A two-armed pre-post intervention was conducted in Banten from February to August 2022. Participants were randomly assigned to an intervention or a control group. The total sample of this research is 187 respondents. This study found that the intention to wash hands using clay soap before and after the short video educational media intervention increased by 4.3%, and the intention to buy it increased by 4.8%. In the three variables that construct the intention to wash hands using clay soap, only the subjective norm variable is related to the behavioural intention to use clay soap. Religious reasons have the potential to increase handwashing behaviour using clay soap. Short video educational media interventions targeting Generation Z can be carried out to increase the intention to practice handwashing.

Keywords: *Intention, handwashing, health education, theory of planned behavior*

INTRODUCTION

Tools using videos in providing education are essential in public health promotion. Many health educators have conducted these efforts to increase a person's intention to behave healthily (Winelis & Sodik, 2021). Even though the role of hand hygiene in preventing the spread of disease and infection is widely known, adherence to consistent handwashing is still low (Fithriasari et al., 2022).

Research in China on female students found a difference between handwashing awareness and handwashing behavior (Chen et al., 2020). Bad hand washing behavior in college students can be improved by promoting hand washing behavior (Sinanto & Djannah, 2020).

Research in Bangladesh on college students suggests conducting a campus-based public health education program to improve student handwashing behavior (Kabir et al., 2021). It is important to optimize health promotion programs among college students to prevent infectious diseases.

Several studies have also highlighted that interventions that use social pressure, organizational culture and emotional sensations can change a person's handwashing behavior (Fauzi, 2018). Intervention using religion-based educational videos, such as clay soap, is one strategy to increase the intention to wash hands (Mawakhadah et al., 2022).

The development of clay soap formulations has been carried out by many researchers in various countries, especially Muslim-based countries (Fauzi, 2018; Mawakhadah et al., 2022; Munawiroh et al., 2021). Based on the Islamic law (fiqh) on the purification section, land use is part of self-purification to remove impurities and is related to the legal requirements of worship (Muchtar, 2022).

Knowledge of the basis for using clay soap regarding religion and health is fundamental. Many Muslims already know about these impurities but unknowledge why the law of purification is from practical perspectives such as health (Mashadi, 2022). Clay soap has been scientifically proven to kill bacteria (Azhari et al., 2020), including bacteria produced by dog saliva. The strategy of health workers in educating the public using short videos containing information about clay soap, its benefits and religious and health reviews is needed to change a person's attitude and perception.

The theory of planned behavior is based on every action is reasoned, and a person needs to understand or think logically about a given behavior. The cognitive process is constructed from three main variables, namely attitudes, subjective norms and perceptions of behavioral control (Tarjo et al., 2019). University students are a group of teenagers who are in a transitional period between late adolescence and early adulthood. Students are also known as trendsetters who can facilitate the promotion of new behaviors.

This study aimed to determine the effectiveness of health education videos based on Islamic purification fiqh on students' intention to wash their hands using and buying clay soap by applying the Theory of Planned Behavior.

MATERIAL AND METHODS

Research design

A two-armed pre-post intervention was conducted, and participants were randomly assigned to an intervention or a control group. This research lasted for 6 months, from February to August 2022.

Population and sample

The population in this study were students at one university as a representative of religion-based tertiary institutions and one university as a representation of general-based tertiary institutions located in South Tangerang City, Banten Province. The number of samples was estimated with reference to previous research (Vandormael et al., 2021). At alpha (α) of 5%, using a power test of 80% and a standard deviation (σ) of 18.5 obtained a total sample of at least 149 respondents (minimum 75 respondents per group). The determination of the intervention group and the control group was determined randomly.

The number of Eligible respondents in this study was 1,279 respondents. The exclusion criteria were 1) a nursing student at UIN Syarif Hidayatullah Jakarta; 2) 6^{th} semester Public Health and Pharmacy students of UIN Syarif Hidayatullah; 3) unavailable or uncontactable during the

research recruitment period. 265 respondents attended the initial visit to explain the research, and 43 refused to participate. Furthermore, the number of respondents who were willing to take part in the research was obtained as many as 222 respondents. Respondents were grouped into the intervention group (85 respondents) and the control group (137 respondents) randomly. Overall, 187 respondents were analyzed: 75 respondents from the intervention group and 112 respondents from the control group (Figure 1).

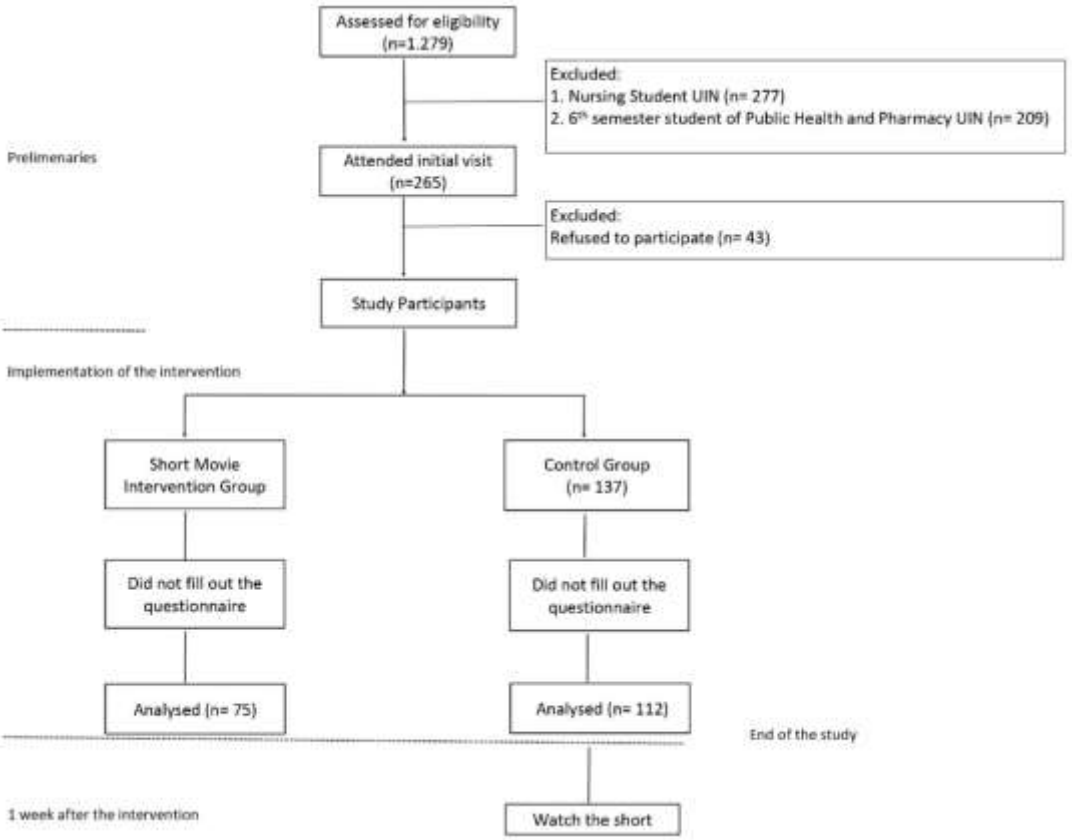

Figure 1. Flowchart of the study

Validity and reliability test

Testing of the validity and reliability of the knowledge questionnaire was conducted in the pre-survey stage. The results of the validity and reliability tests were analyzed using the reliability test (Cronbach's alpha value of 0.895).

Research procedure

The respondents completed questionnaires via Gform to collect data, which was done twice, once before and once after the intervention. Post-intervention questionnaires were administered on the day of the intervention, 15 minutes after the short video was shown. The type of short video was media by design. The questionnaire type was closed questions, in which respondents only needed to choose one of the answer options provided for each question without having to explain it.

Pre-intervention stage

At this stage, all respondents (intervention group and control group) received an explanation of the research procedure. After that, respondents were asked to fill out the questionnaire link on the Gform, which was shared via social media WhatsApp. Questions on the questionnaire include

respondent characteristics, intention to wash hands using clay soap, attitudes, subjective norms and perceptions of behavior control.

Intervention stage

At this stage, the intervention group and the control group were placed in separate rooms. The control group was asked to wait while the intervention group watched a short video of approximately 8 minutes regarding clay soap. The short video explains clay soap from a pharmaceutical, public health and Islamic perspective. The short video describes soap's function, materials, and clay soap-making. The short video explores clay's role in Islamic religion as a cleanser of impurities. Also, the short video shows the 7 steps for proper handwashing according to the WHO.

Post-intervention stage

This stage was carried out 15 minutes after the respondents in the intervention group watched a short video about clay soap. All respondents, both the intervention group and the control group, were asked to fill out the same questionnaire link on the Gform that had been distributed at the pre-intervention stage. The questions asked at the post-intervention stage were the same as those at the pre-intervention stage.

Dependent variable measurement

The outcome of this research is behavioral intention in using soil-based soap. This variable is measured using the question, "Do you intend to wash your hands using clay soap"? Respondents' answers were divided into two: "yes" or "no".

Independent variable measurement

The statement on attitude variables, subjective norms, and perceptions of behavioral control was given 4 choices: 1 = very appropriate, 2 = appropriate, 3 = inappropriate, and 4 = very inappropriate. Then, each answer choice was given the highest score of 4, and the lowest is 1. The total score is the sum of the total score of the answers to the statements in each variable (8 statements of attitude variable, 6 statements of subjective norms, and 7 statements of perception).

Statistic analysis

Data analysis used statistical methods to describe the characteristics of the study population, used descriptive statistics of frequency, percentage, average and standard deviation. The relationship between the dependent variable and the independent variable was analyzed using the t-test on independent samples or the Chi-Square test, depending on the type of variable being measured. IBM SPSS version 22 software (IBM Corp., Armonk, NY, USA) was used in all analyses. The statistical test used is two-sided. The p-value of 0.05 is considered statistically significant.

Research ethics

This research has also received approval from the ethics committee of the State Islamic University (UIN) Syarif Hidayatullah Jakarta Faculty of Health Sciences with ethical approval no Un.01/F.10/KP.01.1/KE/SP/05.08.019/2022.

RESULTS AND DISCUSSION

The total sample obtained in this study was 187 respondents. Table 1 shows that most of respondents are female (89.3%). Parents' education, on average, is high school and university graduates as much as 77.5%. Meanwhile, 41.2% of parents work as entrepreneurs, 21.4% work as private employees, and 16.6% of parents work as civil servants, military or police.

Table 1. Characteristics of Respondents (n=187)

Variables	n	%
Gender		
Male	20	10.7
Female	167	89.3
Parents' Education		
Did not complete elementary school	3	1.6
Completed elementary school	14	7.5
Completed middle school	25	13.4
Finished high school	93	49.7
University	52	27.8
Parents' Occupation		
Laborer/driver/ART	10	5.3
Farmer/Farm Laborer	11	5.9
Self-employed	77	41.2
Private employees	40	21.4
Civil servants/military/police/State-owned enterprise employee	31	16.6
Other	18	9.6

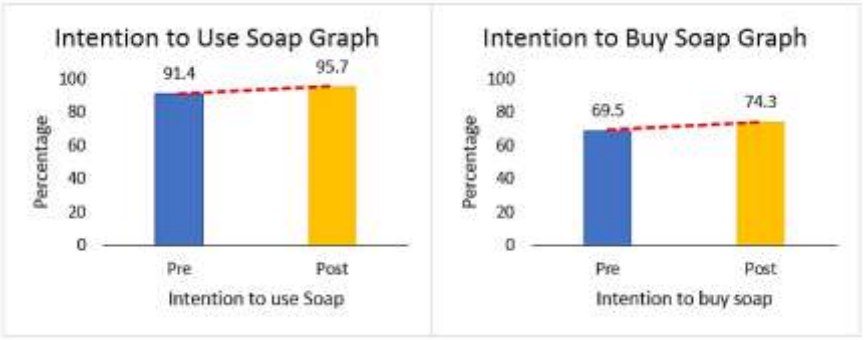

Figure 2. Percentage Of Intention to Use and to Buy Clay Soap Before and After Intervention

The percentage of intention before the intervention was 91.4%, and the intention after the intervention was 95.7%. This study found an increase of 4.3% in behavioral intention to use and buy clay soap before and after the intervention. This study also showed that the intention to buy soap increased by 4.8% before and after the intervention with the percentage of intention to buy clay soap before the intervention at 69.5% and the percentage of intention to buy soap after the intervention at 74.3%.

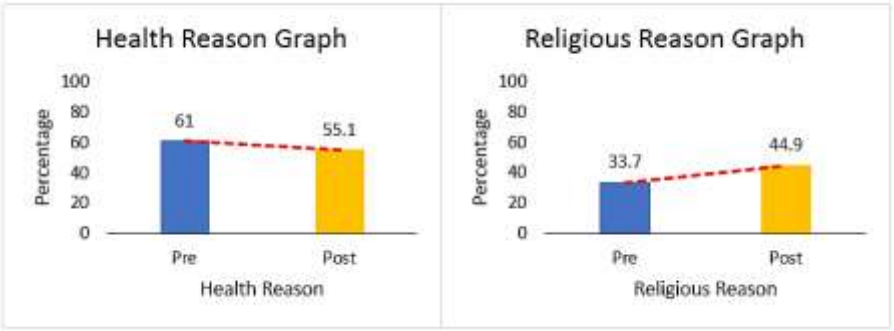

Figure 3. Percentage of Health Reasons and Religion Reasons for Buying Clay Soap Before and After Intervention

In this study, the majority of motivation to buy clay soap before the intervention was for health reasons 61%, religious reasons 33.7% and 5.3% other reasons. Some of the other respondents who answered said that the reason for buying was their interest and curiosity about clay soap.

Table 2. Distribution of Means Before and After Intervention Attitudes, Subjective Norms, and Perceptions of Control

Variable	Pre-Test				Post-Test			
	Min	Max	Mean	SD*	Min	Max	Mean	SD*
Attitude	15	31	21.88	2.701	15	31	22.47	2.924
Subjective Norm	7	24	16.40	3.200	6	24	16.74	3.179
Perceived Behavior Control	10	28	19.91	3.038	11	28	20.35	2.968

*SD= standard deviation

Table 2 shows that the three constructive variables in the behavioral intention to use ground soap increased in the average score before and after the intervention. In the attitude variable, there was an increase in the average score from before the intervention, 21.88, which increased to 22.47. The Subjective Norm Variable, which initially had an average score of 16.40, became 16.74. Meanwhile, on the perception of behavioral control, the average perceived behavior control was 19.91 to 20.35 after the intervention.

Table 3. Relationship between Attitudes, Subjective Norms, and Perceptions of Control After Intervention with Behavioral Intentions to Use Clay Soap.

Variable	Behavioral Intentions to Use Clay Soap		P-value
	Yes Mean (SD)	No Mean (SD)	
Attitude	22.52 (2.83)	21.25 (4.52)	0.231
Subjective Norm	16.85 (3.08)	14.12 (4.22)	0.017*
Perception of Control	20.35 (3.00)	20.38 (2.13)	0.979

*p-value<0.05

Table 3 shows that for the three variables that construct behavioral intentions to wash hands using clay soap, only the subjective norm variable has a relationship with the behavioral intention to use clay soap with a p-value of 0.017. In comparison, the other variables, attitude and perceived behavioral control, do not have a significant relationship with the behavioral intention to use handwashing soap. Meanwhile, none of the respondent characteristic variables is related to the intention to use clay soap with a p-value > 0.05 (Table 4).

Table 4. Relationship between Respondents' Characteristics and Behavioral Intentions to Use Clay Soap

Variable	Behavioral Intentions to Use Clay Soap		P-*value*
	Yes n (%)	No n (%)	
Number of Respondents	179	8	

Parent Education			0.603
Junior school graduate	40 (22.3)	2 (25.0)	
Graduated from Senior high school	89 (49.7)	4 (50.0)	
College	50 (27.9)	2 (25.0)	
Parents' occupation			0.665
Laborers/drivers/household household members, fishermen, farmers/farm labourers	20 (11.2)	1 (12.5)	
Self-employed	73 (40.8)	4 (50.0)	
Private employees	40 (22.3)	0 (0)	
Civil servant/military/police/State-owned enterprise employee	29 (16.2)	2 (25.0)	
Other	18 (9.6)	1 (12.5)	
Gender			0.603
Male	19 (10.6)	1 (12.5)	
Female	160 (89.4)	7 (87.5)	

This study found that, in general, the intention to wash hands using clay soap among university students was very high before and after the short video educational media intervention (91.4% and 95.7%). This research was conducted on students with a health background so that the behavior of washing hands with soap was high, possibly due to the high knowledge that the respondents had and also understood the importance of washing hands with soap regardless of whether the soap was made from soil or soap with other essential ingredients. This research is in line with research conducted in Thailand on public health students who found that in general handwashing behavior is high. However, this study underlines that although handwashing behavior is good, consistent adherence to handwashing protocols still needs to be improved (Kitsanapun & Yamarat, 2019). Furthermore, previous studies suggested that short video might contribute to intention changes (Amsalem et al., 2022; Marshall et al., 2022).

This research was conducted during the COVID-19 pandemic, so students had high handwashing behavior (Martinez et al., 2022). To the best of our knowledge, there has yet to be a longitudinal study that aims to find out differences in handwashing behavior before the pandemic and after the COVID-19 pandemic. However, in general, the behavior of washing hands with soap was higher during the pandemic. Handwashing has become a significant health message which has also been included in government policies in many countries, since the pandemic occurred. In some countries it is even mandatory and included in health protocols in schools and tertiary institutions.

Although this study did not ask the respondent whether the behavior of washing hands using clay soap was the same as that of washing hands using soap other than soil for the respondents, this study underlined several exciting findings. This study shows that the intention to wash hands using clay soap sometimes differs from the intention to buy clay soap. When respondents were asked about their intention to buy clay soap, the difference was around 21.9% to wash their hands using clay soap. This result indicates that the behavior of washing hands using the clay soap mentioned could be more robust. Behavioral indications will occur if the intention to behave is accompanied by an intention to buy certain products to support this behavior in this study, namely clay soap. Clay soap is something new so respondents might associate it with expected behavior, namely hand washing. For this reason, the question about the respondent's intention to buy clay soap becomes essential. In this study, the respondents' intention to buy clay soap increased by 4.8% after the intervention, which was only 69.8% initially. There is a possibility that the behavioral intention to wash hands using clay soap is represented by the intention to buy the clay soap.

Even though the percentage of students who intend to wash their hands with clay soap is high, this research only examines students with a health background, so this could be different for students with a non-health or general background. On the other hand, we need to be aware that the intention could be changed with other exposure, so this kind of intervention should be repeated consistently. Increasing the behavioral intention to wash hands using clay soap and the intention to buy clay soap requires a more comprehensive intervention than just a short video educational media. Interventions to change behavior require adequate processes, appropriate methods explicit message content tailored to the goals of behavior change. Peer pressure is a potential strategy to increase handwashing behavior in female students (Sianipar et al., 2021). Other studies have also found that the frequency of peer-washing hands significantly influences student behavior (Dickie et al., 2018).

In this study, in general, there were no determinant factors related to pre-and post-intervention behavioral intentions except for subjective norms. This result may be due to the three variables that construct behavioral intentions to wash hands using clay soap. Only subjective norms come from the results of one's evaluation of a behavior from an external perspective. The subjective norm variable emphasizes how a person measures the importance of behaving based on the perspective of those around him whom he considers crucial, such as their peer groups, influencers, family, and lecturer. In this study, subjective norms are one's thoughts on other people's perspectives on the behavior of washing hands using clay soap. Using clay soap in washing hands is an action per the norms adopted in society.

The majority of Indonesia's population is Muslim and applies religion by studying religion since the elementary school level. In general religion lessons at school, one of the subjects studied is the science of fiqh (Islamic Jurisprudence) (Hidayah & Az-zafi, 2021). In the study of fiqh thaharah, the discussion on thaharah consists of several sections, one of which discusses the cleaning uncleanness associated with the behavior of washing hands using clay soap (Fauzi, 2018). Based on the Islamic view in the thaharah chapter, the use of land or soil is part of self-purification to remove uncleanness and is related to the legal requirements of worship.

Previous studies have shown several formulations of clay soap to remove impurities attached to the surface of the skin (Fauzi, 2018; Mawakhadah et al., 2022; Munawiroh et al., 2021. The division of uncleanness consists of several levels, namely light level (mukhaffaffah), moderate uncleanness (mutawassitah) and severe uncleanness (mughallazah). This clay soap was developed to make it easier for the community to purify heavy uncleanness (mughallazah) (Muchtar, 2022). Examples included in mughallazah are uncleanness that comes from dogs and pigs (including their feces and saliva). The procedure for cleaning it is by first removing the form of the unclean object. Then, wash with clean water seven times and one of the times using soil.

This study also found that a person's reasons for buying clay soap experienced an increase in religious reasons after a short video educational media intervention of 11.2%. Religion is a motivation that encourages a person to carry out certain health behaviors (Hayden, 2022). Several studies on handwashing behavior state that religious reasons encourage someone to do the behavior (Bavel et al., 2020; Dwipayanti et al., 2021; Gaube et al., 2021).

The findings of this study are interesting because the reason someone moves, initially due to health, becomes religious reasons at 5.9% at the time after the intervention likewise for respondents who initially chose other reasons to switch to religious reasons after the intervention was carried out (5.3%). In addition, this result could be since using a short video as educational media; respondents understood that the behavior of washing hands with earthen soap is part of

religious teachings, so the reasons for buying soap respondents changed, even though it was not statistically significant.

An interesting finding was that when asked whether there were other reasons to buy soap besides religion and health, some respondents explained that interest and curiosity motivated the intention to buy. The respondents' understanding of the concept of thaharah may be different even though it was not examined in this study. However, a good understanding of it may lead to the behavioral intention to wash hands using clay soap. In addition, respondents belong to the age group age group Generation Z (19-24 years), who have a better understanding of technology than the previous generation (Dolot, 2018). So, interventions can also use social media, which is used as a means of expanding the intensity of media influence (Winelis & Sodik, 2021).

This study has limitations; first, it only looks at changes after the intervention within 15 minutes and is only done once, which means it is a temporary response, so further analysis must be carried out to determine the consistency of intentions. Second, the results of this study cannot be generalized to students who do not have a health background because knowledge regarding the benefits of hand washing may be lower than students with a health background This limitation also applies to students with an Islamic Religious Education background, who may have more knowledge of the benefits of clay soap according to the science of fiqh.

CONCLUSION AND SUGGESTION

This study underlined that although there was no statistical difference, the intention to wash hands using clay soap before and after the short video educational media intervention increased. Religious reasons can increase handwashing behavior using clay soap but must be strengthened by other educational methods or using several methods in combination.

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CONFLICT OF INTEREST

The authors declared no conflict of interest.

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