

ORIGINAL RESEARCH

# SCHOOL HEALTH PROMOTION: A QUASI-EXPERIMENTAL STUDY ON CLEAN AND HEALTHY LIVING BEHAVIOR AMONG ELEMENTARY STUDENTS IN JAYAPURA, PAPUA, INDONESIA

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**Abstract**

**Background:** The Indonesian government has launched a clean and healthy living behavior program as one of the efforts for school health promotion. However, the healthy behaviors of the elementary students are considered low.

**Objectives:** This study aimed to examine the effect of audiovisual-based education on the knowledge and attitudes of clean and healthy behavior in elementary students.

**Methods:** This was a quasi-experimental study with a pretest-posttest comparison group design conducted from 1 October to 17 October 2018. A total sample of 272 students was selected using purposive sampling, with 136 assigned in an experimental group (audiovisual group) and a comparison group (poster only group). Knowledge and attitudes of clean and healthy living behavior were measured using validated questionnaires. Data were analyzed using a paired t-test and independent t-test.

**Results:** There was a significant effect of the interventions given in the experimental and comparison group on knowledge and attitude of clean and healthy living behavior ( $p < 0.05$ ). However, the experimental group showed a higher mean score compared to the comparison group in knowledge and attitudes, which indicated that the use of audiovisual-based education was more effective than the use of poster alone in improving the knowledge and attitudes of clean and healthy living behavior.

**Conclusion:** The students who received audiovisual-based education had higher knowledge and attitudes of clean and healthy living behavior than those who only received poster-based education. This study provides input for pediatric and community nurses to provide better health education for the community, specifically for school health promotion.

**KEYWORDS**

health education; health behavior; knowledge; attitudes; students; Indonesia; nursing

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**BACKGROUND**

Clean and healthy living behavior, or called *Perilaku Hidup Bersih dan Sehat* (PHBS), is a set of actions that make a person or family able to help themselves maintain their health (Proverawati & Rahmawati, 2016). Inappropriate PHBS can cause diarrhea and other health problems (Nazliansyah et al., 2016). Besides, according to Danari et al. (2013) and Koem (2015), lack of physical activity, lack of consuming fruits and vegetables, excessive food portions, and fast food intake in children result in overweight or obesity.

PHBS is one of the programs conducted by the Indonesian government for health promotion. However, based on the Basic Health Research of Ministry of Health of the Republic of Indonesia (2013), elementary children who performed PHBS were low, such as correct handwashing with soap was 47%, consuming risky foods once per day (sweet foods

53.1%, salty 26.2%, fatty 40.7%, burned 4.4%, preserved animals 4.3%, flavoring 77.3%, coffee 29.3%, and caffeine other than coffee 5.6%), and doing physical activity gratified as active was 73.9% and less active was 26.1%. The acceptable standard results of the PHBS criteria are at 32.3%, with the highest proportion of DKI Jakarta (56.8%) and the lowest in Papua (16.4%).

Data from Jayapura City Central Statistics Agency (2013) show that the implementation of PHBS in the Elementary School of Inpres Bertingkat Perumnas 1 Waena was still not optimal. Of 564 existing students, 300 students (53.1%) lacked an understanding of the importance of handwashing correctly and adequately, and 264 students (46.9%) did not do hand washing correctly. There was a lack of students' understanding in choosing snacks at school and a lack of active students in physical activity, indicating poor knowledge.

Knowledge is the result of knowing, which occurs after sensing the object, and is influenced by the intensity of the attention of perception because of understanding (Notoatmodjo, 2010; Tuyen, 2018). Yulianti (2015) found 33 of 64 students had insufficient knowledge about PHBS (51.6%). Based on the PHBS indicators, 24 students (37.5%) did not do hand washing correctly, 30 students (46.9%) did not consume healthy snacks in the school cafeteria, and 30 students (46.9%) did not do regular physical activities. A similar study conducted by Lina (2016) in the Kuranji Padang sub-district that the students had the lowest knowledge of 56.3%.

The results of a preliminary study in 1,169 students at Elementary School of Inpres Bertingkat and Elementary School of Inpres 5.81 Perumnas 1 Waena showed that the implementation of the school health unit (called *unit kesehatan sekolah* - UKS) was still not optimal. As seen from the availability of facilities to wash hands (9 units), most students did not use them properly. From the results of the interviews with the second-grade teachers, it was indicated that among 154 grade IV and V students, only 60 students (39%) did not receive information about handwashing correctly, 75 students (49%) consumed unhealthy snacks outside of school, and 19 students (12%) did not do physical activities every day. This result shows the need for students' understanding of clean and healthy behavior. One factor affecting children's knowledge is attitude (Notoatmodjo, 2010; Sunarvo et al., 2020).

Attitude is the result of object evaluation, expressed in cognitive, affective, and individual behavior or responses obtained from the learning process towards various attributes related to the object (Notoatmodjo, 2010). Research conducted by Lina (2016) shows that the PHBS indicators of students who did not choose healthy snacks in school canteens were 100%. Thus, efforts to improve knowledge and attitudes are needed, one of which is by providing health education.

Health education is a form of business planned to improve individual or community health through mentoring, learning, and training activities to improve knowledge and attitudes physically, socially, and environmentally (Efendi & Makhfudli, 2009; Maulana, 2009; World Health Organization, n.d.). The more information that is known, the higher the ability of students to behave healthy lives. The roles of nurses should be implemented as educators, role models, and at the same time as facilitators in the delivery of education.

Vio et al. (2014) states that students' knowledge and attitudes can be increased after given information. Also, Amaya-Castellanos et al. (2015) revealed that educational media is used to improve students' knowledge and attitudes in doing physical activities and choosing foods that do not cause obesity. One form of education that can be used is through audiovisual media. Audiovisual media is considered effective in increasing knowledge and attitudes (Brugués et al., 2016). Audiovisual media in the delivery of PHBS education in the form of videos can present easily understood information. Simultaneously, the poster is a precise visual combination and draws one's attention to act from what is seen (Troseth & Strouse, 2017). Therefore, this study aimed to determine the effect of health education using audiovisuals (videos and posters) on the knowledge and attitudes of PHBS in elementary school students in Jayapura, Papua, Indonesia.

## METHODS

### Study Design

This was quasi-experimental design research with pretest-posttest with a comparison group design.

### Respondents

The respondents in this study were students in grades 4 and 5 from two elementary schools in Waena Inpres State Elementary School, including Elementary School of Inpres Bertingkat Perumnas 1 Waena as an experimental group and Elementary School of Inpres 5.81 Perumnas 1 Waena as a control group. There were 272 students selected using purposive sampling, which 136 students assigned in each group. The inclusion criteria of the respondent were all students in grades 4 and 5, willing to become a respondent, and could write and read fluently. The exclusion criteria were students who did not attend school at the time of the research data collection.

### Instrument

The instrument used in this study was questionnaires of knowledge and attitudes of students about PHBS at schools, modified from Listyowati (2012) and Proverawati and Rahmawati (2016), and the Ministry of Health of the Republic of Indonesia (2011). The knowledge questionnaire consisted of 20 questions in the form of multiple check questions (MCQ), using the Guttman scale in the form of right and wrong choices. The highest value of the total answers is 20, with a range of scores from 0 to 20. Knowledge assessment is said to be "good" if the value of the knowledge score is  $\geq$  mean and student knowledge is "lacking" if the value of the knowledge score is  $<$  mean. The questionnaire consisted of four domains, namely PHBS at schools (definition, benefits, training targets), washing hands with soap (definition, benefits, right time, how to wash hands properly), consuming healthy snacks (definition of healthy snacks, causes of consumption of snacks unhealthy, the definition of balanced nutritious food), and perform daily physical activity (definition, benefits, kinds of physical activity, advantages of doing the physical activity). Person Product Moment test and Cronbach's alpha were used for the validity and reliability of the questionnaire. The results of the validity test showed that the calculated *r*-value of each item statement was above 0.361, and the Cronbach's alpha value was 0.88.

The attitude questionnaire consisted of 15 questions using the Likert scale. Positive statements used favorable answers (1=strongly disagree, 2= disagree, 3= agree, 4= agree) while negative statements used unfavorable responses (4= strongly disagree, 3= disagree, 2= agree, 1= agree), with a range of attitude score values 0 - 60. Attitude assessment is said to be "positive" if the value of the attitude of students is  $\geq$  mean, while attitude is said to be "negative" if the value of the attitude score of students is  $<$  mean. The questionnaire consisted of the same domains like the knowledge questionnaire. The questionnaire was valid with the *r*-value of each statement item was above 0.361 and reliable with the Cronbach alpha value was 0.89.

### Intervention

The intervention was carried out in the experimental group by providing audiovisual-based education using video and posters about clean and healthy behavior (PHBS) for 45 minutes after the pretest. The health education was done at a different time from the agreement with the control and experimental groups. The video's duration was 4