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Original Research

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Descriptive Study of Children's Knowledge about Hand Hygiene as a Prevention of the Spread of Covid-19

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ABSTRACT
The mortality rate of Covid-19 in Indonesia is 8.9%, which is the highest rate in Southeast Asia. Indonesia announces that there are positive patients with Covid-19 in children under five and school age. Children have the potential to transmit the virus to other people. One of the efforts to prevent the spread of Covid-19 is to carry out *hand hygiene* according to the Covid-19 protocol. The research objective was to determine the knowledge of school age children about *hand hygiene* as an effort to prevent the spread of Covid-19. The research design is descriptive analytic. The population in this study were children of elementary school age, namely as many as 403 people. By using *Simple Random sampling*, the sample were found 100 respondents. The data were collected using a questionnaire that contains knowledge of school age children about hand hygiene. The results showed that 45% of respondents have low knowledge of *hand hygiene* and 55% of respondents have high knowledge of *hand hygiene* as an effort to prevent the spread of Covid-19. The lowest respondent's knowledge (46.8%) is about washing hands with the right steps which take a long time. It can be concluded that respondents still have low knowledge about hand hygiene as an effort to prevent the spread of Covid-19. It is hoped that parents and schools will disseminate how to properly practice hand hygiene, and facilitate the availability of a place to wash hands that is equipped with hand washing soap and water flow.

Introduction

Based on data up to March 2, 2020, the mortality rate (a measure of the number of deaths) around the world is 2.3%, while specifically in the city of Wuhan is 4.9% and in Hubei province is 3.1 %, this figure in other provinces in China is 0.16%. Based on a study of the first 41 patients in Wuhan, 6 people died (5 patients in the ICU and 1 patient in non-ICU) (Huang, et.al, 2020). Many cases of death in the elderly with comorbidities, the first case of death was a male patient aged 61 years with comorbid intraabdominal tumor and liver disorders, then in children who were also very at risk of transmission of the corona virus due to lack of knowledge (The Straits Time, 2020, para. 4).

In Indonesia, washing hands has not become a culture practiced by the wider community where in everyday life, many people wash their hands only with water before eating, washing hands with soap is actually done after eating (Ministry of Health Republic Indonesia, 2014). Prevention of Covid-19, one of which is washing hands, washing hands with soap is one of the sanitary measures by cleaning hands and fingers using water and soap by humans to become clean and break the germ chain, this is done because hands are often the agent that is used carry germs and cause pathogens to pass from one person to another, either by direct contact or indirect contact (using other surfaces such as towels, glasses). All types of viruses including Covid-19 can be active outside the human body for hours, even days, disinfectants, hand sanitizers, wet wipes, gels and creams that contain alcohol are all useful for killing this virus, but not as effective soap, when doing daily activities, it will be difficult for the hands to avoid the viruses, bacteria, or germs that cause it, the eyes are unable to see the virus directly, so washing hands is the best step to avoid contracting the disease (Pratiwi, 2017).

Good hand hygiene is a very important measure of infection control due to contact from one individual to another. Corona virus transmission to children is the same as adults, namely through the liquid (*droplet*) that comes out of the mouth of the sufferer when sneezing, coughing, or just talking. Droplet can be first attached to objects, then touched by the child's hand used to wipe faces or eat. When hands that are contaminated by human, animal, or body fluids are not washed with soap, it has the potential to transfer bacteria, viruses, and parasites to other people (Fewtrell, et al., 2005).

The transmission of the corona virus does not look at age, starting from the elderly (elderly) to children who can contract the corona virus infection. In Indonesia, the government has also announced that there are patients who are positive for corona under 5 years of age (toddlers). This news certainly makes many parents panic about the outbreak of the corona outbreak among children, however, an infectious disease expert from the US, Cecile Vibound, said that children have the potential to transmit the virus to others, even though they are relatively immune to disease, children can still pass it on to other people. Therefore, the importance of washing hands properly in children can improve health, create a safe environment, and prevent the occurrence of diseases such as diarrhea, skin diseases, worms, upper respiratory tract infections (ISPA), typhoid fever, influenza, hepatitis A (Rachmayanti, 2013).

The behavior of washing hands with soap that is not true is still found in children aged ten years and under. Because children at these ages are very active and susceptible to disease, it requires awareness from them that the importance of healthy hand washing behavior is applied in daily life. A person's behavior can be influenced by factors such as knowledge, attitudes, and motivation. One of the predisposing factors for behavior is knowledge, the higher a person's knowledge about washing hands, the better their attitude in implementing hand washing (Mikail, 2011). The right time to wash your hands with soap is before and after eating, before preparing food, after removing the child's stool, before touching the mouth, nose and eyes, after activities, and after receiving packages and online food (Suprapto, et al., 2020).

According to the Ministry of Health (2012), the role of nurses is as an implementer of nursing

services, as a nursing manager, as a nursing educator and as a nursing researcher. Based on their role as nurse educators, nurses transfer knowledge, skills, and attitude formation during patient-focused learning. In nursing, health education is a form of independent nursing intervention to help clients, both individuals, groups and communities in overcoming their health problems through learning activities, in which the nurse acts as a nurse educator.

Based on the results of the initial data survey conducted by Desiyanto and Djannah (2013), it shows that washing hands properly using soap, running water, and hand sanitizers has proven effective in reducing the number of germs, bacteria and viruses. The results of research by Rahmawati, et al. (2020) show that there is a significant relationship between the spread of covid-19 in elementary school children regarding Hand Hygiene. Washing your hands properly can reduce or eliminate disease-causing microorganisms and prevent various diseases.

Method

Research Design

This study used a quantitative descriptive analytic research design with the aim of knowing the knowledge of respondents, in this case school-age children, about hand hygiene as an effort to prevent the spread of Covid-19.

Population and Sample

The study population was 403 school-age children in one of the public elementary schools in Pekan Baru, while the sample was taken using *simple random sampling technique* with a total of 100 people.

Instruments

Instrument used was a questionnaire on the knowledge of school-age children about Hand Hygiene as an effort to prevent the spread of Covid-19. The questionnaire was created and modified, which contained 18 positive statements and 2 negative statements using a Likert scale with the following ratings: "Strongly Agree" rated 4, "Agree" is assessed as 3, "Disagree" is scored as 2, and "Strongly Disagrees" is assessed as 1.

Data Analysis

Analysis used was descriptive frequency to see an overview of respondents' knowledge about hand hygiene as an effort to prevent the spread of Covid-19.

Results

Table 1. Distribution of Frequency of Knowledge of Elementary School-Age Children About Hand Hygiene Against the Spread of Covid-19.

Knowledge	F	%
Low	45	45
High	55	55
Amount	100	100

Based on the table above, it can be seen that the frequency distribution of knowledge of school age children basic knowledge about hand hygiene is low knowledge 45 people with a percentage of 45% and high knowledge 55 people with a percentage of 55%.

Table 2. Frequency Distribution of Respondents based on the Children's Knowledge Questionnaire on Hand Hygiene as an Effort to Prevent the Spread of Covid-19

Variable	*a*	*Mean*
Washing hands can prevent the transmission of corona infection	1	4,00
Using antiseptics is part of washing hands	13	3,93
Washing hands after eating	6	3,99
Hand washing must be done before eating	2	4,00
Washing hands before and after eating	3	4,00
Hand washing with running water and soap	7	3,99
Washing hands using a hand sanitizer if hands are not dirty	15	3,87
After traveling must washing hands or using a hand sanitizer	10	3,96
Washing hands using soap	11	3,96
No need to wash hands after activity	18	2,76
Washing hands does not take long	19	2,74

Washing hands after using the toilet	4	4,00
Washing hands after coughing and sneezing	5	4,00
Washing hands after handling pets	12	3,95
Washing hands after taking out the trash	16	3,75
Washing hands after greeting	8	3,98
Washing hands using water flow	9	3,97
Washing hands before touching food	14	3,92
Washing hands using the right steps takes a lot of time	20	1,87
Washing hands after touching surfaces	17	3,58

Based on table 2 It was found that the lowest knowledge of children about *Hand Hygiene was* found in the statement "washing hands in the right steps takes a lot of time" with a mean = 1.87.

Discussion

Hand hygiene is the most important element that must be considered in breaking the chain of infection transmission, however, practice *hand hygiene* is generally carried out correctly by 40% of health workers (Ministry of Health Republic Indonesia, 2014). Hand washing is a process that mechanically removes dirt and debris from the skin of the hands using ordinary soap and water. According to Susiati (2008), the purpose of washing hands is to remove microorganisms in the hands, make the hands sterile so that cross infection can be prevented. One of the preventions of the Covid-19 virus is washing your hands, both with soap and water, for at least 20 seconds. If there is no water and soap you can use a *hand sanitizer* with an alcohol content of at least 60%.

Knowledge comes from the word "know", in Kamus Bahasa Indonesia (2008) the word tofu has meanings, including understanding after seeing (witnessing, experiencing, and so on), knowing and understanding. Mubarak (2011) states that knowledge is everything that is known based on human experience itself and knowledge will increase according to the process of experience that is experienced. Meanwhile, according to Notoatmodjo (2012), knowledge is the result of tofu and this occurs after someone senses an object. Sensing occurs through the human senses, namely, the senses of hearing, sight, smell, feeling and touch. Some human knowledge is obtained through the eyes and ears.

As for based on the knowledge frequency distribution table of respondents who responded low as much as 45% and respondents who responded high as much as 55%. This measurement is carried out from the mean of 74.22. The total score <74.22 for low knowledge and a total score> 74.22 for high knowledge.

The results showed that the *mean* of all respondents' answers about the knowledge of elementary school age children about hand hygiene as an effort to prevent the spread of Covid-19 was 74.22 after being divided by the number of statements of 20 points, the result was an average value of 3.711 while the value was close to 4 with High criteria. It can be concluded that school-age children have high knowledge of Hand Hygiene as an effort to prevent the spread of Covid-19.

This research is not in line with Lestari (2019) with the title the relationship of knowledge and attitudes towards the hand washing behavior of the Pegirian Village community. The results showed that more than half of the respondents (70,2%) had less knowledge. In line with Kusumawardhani, et al. (2017) with the research title Knowledge, attitudes and actions of washing hands properly in grade 1 and 2 at SDN 2 Karanglo, Klaten Selatan, which states that most respondents (69%) have good knowledge.

Impressions in the human mind as a result of using the five senses produce knowledge

(Notoatmodjo, 2013). The basis for doing or not doing something can come from knowledge. Knowledge of the importance of washing hands and how to wash hands properly using soap and running water or hand sanitizer can be the basis for whether someone is doing or not washing hands, which is the foundation for the perpetuation of this behavior.

The high knowledge in this study is caused by the self-awareness of school-age children that has been instilled previously by families and schools of the importance of washing hands. This is inseparable from the recognition from an early age the behavior and times required to wash hands. Habits that have been instilled from an early age by the family will become behaviors that remain in school-age children (Notoatmodjo, 2013). As stated by Pratiwi (2017) in her research which states that tofu is defined as remembering material that has been previously studied. Tofu is the lowest level of knowledge. Included in this level of knowledge is recalling a specific one of all the material studied or the stimulus that has been received. So that when the children were asked questions about washing hands, they were able to recall what they had with before.

Meanwhile, knowledge is still low, one of which is due to the lack of hand washing facilities at home and at school. Houses and schools only provide hand washing facilities in the toilets or bathrooms, there are still no hand washing facilities provided in the corners of the house and school. Health education that has not been properly scheduled in school can also affect the knowledge of school age children in proper hand washing. This is in accordance to Kusumawardhani, et al. (2017) which shows that there is an effect of health education on elementary students' knowledge about hand washing. This statement is reinforced by Pratiwi (2017) who argues that most human knowledge is obtained through the eyes and ears, namely through the process of seeing or hearing reality, besides that also through experience and learning processes in formal and non-formal education. . Children can get formal education at school and through health workers, while non-formal education can be obtained by children from their parents at home.

The results of the study in terms of the frequency distribution in each item of the questionnaire statement found that the knowledge of school-age children was the lowest in the statement "washing hands with the right steps takes a lot of time". This is due to the lack of awareness of children to wash their hands in the right steps and minimal time to wash their hands in the right steps. Washing hands has not become a culture practiced by school age children. In everyday life, there are still many school-age children who wash their hands only with water when they want to eat, even though hands are a medium that carries disease germs, so washing them before eating using soap is an effort to prevent the disease itself. Suprapto, et al. (2020) states that the habit of washing hands according to WHO standards can be successful by taking 3 steps: lectures, audio visual learning, and direct practice with water flow

Conclusions

Research conducted on 100 school-age children found that most school-age children (55%) had high knowledge and (45%) had low knowledge about *Hand Hygiene* in an effort to prevent the spread of Covid-19. It is recommended that this research be continued with a large sample and with inferential statistics. Besides, it is hoped that health workers can make an approach through health education and socialization of *hand hygiene* to school-age children as an effort to prevent the spread of Covid-19.

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Author Contributions

The first author had a contribution to make a proposal to the preparation of reports on research articles that were to be published. The second author was to make data available for analysis. And the third author was to assist data collection.

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