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Level of knowledge about handwashing and hand sanitizer at Taro village, Gianyar before and after counseling

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Abstract

Introduction: The COVID-19 pandemic has harmed various fields, and people's activities cannot run as usual. Prevention of the transmission of COVID-19 is very important to be applied in everyday life. Washing hands with soap or hand sanitizer is easy and inexpensive prevention to do, but there are still many people who are wrong in practicing it. This needs to be done more counseling and education to the community in order to increase public knowledge about handwashing and hand sanitizer.

Method: This research is an analytic study with a research design using a one-group pretest-posttest design. Using 31 respondents from Taro villagers who attended the counseling. Data analysis using Paired Sample T-test and Kolmogorov-Smirnov Test for Normality Test.

Result: The average value of knowledge before counseling is 53.8710 while the value after counseling is 82.9677. Paired Sample T-test and obtained a significance value of 0.000 so that a significant difference was found (<0.005) between the values before and after counseling.

Conclusion: There is a significant difference in the level of knowledge before and after handwashing and hand sanitizer counseling.

Keywords: COVID-19; Handwashing; Hand sanitizer; Extension; Knowledge

1 Introduction

12 Corona Virus Disease – 2019 (COVID-19) was first discovered on December 31, 2019, in the city of Wuhan, China [1]. The spread of this new virus is so fast that it causes a global pandemic. In the latest WHO update, global new cases reached more than 3.4 million, and a death toll of nearly 57,000 deaths was reported (12-18 July 2021) [2]. In Indonesia, the first case of COVID-19 was found in March 2020 [3]. Until now there have been tens of thousands of cases and thousands of deaths [4]. In the latest update, the number of cases reached 2.95 million with the addition of more than 35,000 new cases every day [5].

Coronavirus is a zoonosis, so the possible origin of the spread is from animals to humans. The development of data shows transmission between humans (human to human). An analysis attempts to measure the rate of transmission based on the incubation period, symptoms, and duration between symptoms and isolated patients. The analysis states that transmission from 1 patient to 3 people in the vicinity, but there is still the possibility of 1 patient spreading more

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than that [6]. Based on existing data, comorbid hypertension and diabetes mellitus, male gender, and active smokers are risk factors for COVID-19 infection [7].

The most effective transmission of COVID-19 is through droplets/liquids that come out when coughing or sneezing and sticking to surrounding objects. The potential for spread is even greater in the community because people can be infected unknowingly anywhere and anytime. Most COVID-19 patients show symptoms in the respiratory system such as fever, cough, and shortness of breath [8]. More than 40% of fevers of COVID-19 patients have peak temperatures between 38.1-39°C, 34% exceed 39°C, and the rest have no fever [9].

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Hand washing has been recognized as an effective prevention method. This activity is an easy and inexpensive way to prevent the spread of disease [10,11]. Hands are often an intermediary for bacteria to enter the human body [12]. Washing hands has become a worldwide concern, this is because people still do not understand the practice of washing hands [13]. Burton's research in 2011 [14] proved that washing hands with soap was more effective than washing hands with water alone, soap can transfer germs. In addition to many people who do not know about the transmission of COVID-19, the community is also not yet orderly to carry out health protocols regarding the prevention of COVID-19 [15].

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To reduce the spread of COVID-19, the community must implement health protocols [16]. Several precautions are recommended to avoid the spread of COVID-19: Wearing masks, washing hands, maintaining distance, staying away from crowds, and limiting mobility. The dynamics of the development of modern society, there are many innovative products, one of which is widely used by the community is hand sanitizer in the form of an antiseptic liquid or gel commonly called a hand sanitizer [17]. This practical and portable hand sanitizer makes it easier for the community and can help kill germs on the hands [18]. In addition, handwashing can reduce infection cases by up to 50% [19].

The importance of maintaining hand hygiene is the background of researchers conducting counseling. In addition, there are still many people who do not understand how to wash their hands or use hand sanitizer properly. The increasing potential for the spread of disease is increasingly significant in the community around the community, which is the reason for education programs and handwashing practices to be prioritized [20]. Then the results of the extension need to be reviewed in order to see its effect on the level of community knowledge.

2. Material and methods

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This research is quantitative. This type of research is analytic with the research design using a one-group pretest-posttest design. In this study, a questionnaire (pretest) will be given at the beginning, then counseling will be carried out. To determine the effectiveness of the extension, the same questionnaire was administered at the end (posttest). The research is using 31 Respondents from Taro villagers who attended the counseling.

The counseling was carried out by playing a video containing education about handwashing and hand sanitizer, then explaining how to wash hands through videos and hands-on practice together. The last counseling was video screenings and workshops on how to make hand sanitizer with alcohol and aloe vera.

After the pretest and posttest data were collected, a normality test was carried out using the Kolmogorov-Smirnov Test and Statistical Analysis using the Paired Sample T-test to determine whether the scores before and after the counseling were significant or not.

3. Results

Table 1 Characteristic of Respondents

9 Age Group	Age Range	n (%)
Late teens	17-25	2 (6.5%)
Early adulthood	26-35	11 (35.5%)
Late adulthood	36-45	13 (41.9%)
Early elderly	46-55	5 (16.1%)
Total		31 (100%)

Demographic age of the sample is grouped according to the classification of the Indonesian Ministry of Health. Based on table 1, most respondents are in the age range of 36-45 years (41,9%), while the least respondents are in the age range of 17-26 years (6,5%). Respondents had never received counseling and education regarding handwashing and hand sanitizer.

3.1. Level of knowledge before and after attending counseling

Table 2 Differences in knowledge levels before and after counseling

	N	Minimum	Maximum	Mean	SD	p value
Pretest	31	33.00	78.00	53.8710	12.15934	<0.001
Posttest	31	56.00	100.00	82.9677	11.99579	

Abbreviation: SD, standard deviation

The results showed that before attending the counseling, the highest pretest score was 78.00 and the lowest score was 33.00. The mean value of the pretest is 53.8710. As many as 11 people (35.5%) had a pretest score below the average and 20 people (64.5%) had a pretest score above the average. After attending the counseling, the highest posttest score was 100.00 and the lowest posttest score was 56.00. The average posttest score is 82.9677. A total of 17 people (54.8%) had a posttest score below the average and 14 people (45.2%) had a posttest score above the average.

In the data on the level of knowledge before and after counseling, a normal data distribution ($0.078 > 0.05$) was used, then the Paired Sample T-test was used and a significance value of < 0.001 was found so that a significant difference (< 0.05) was found between the values before and after administration counseling.

4. Discussion

Researchers conducted counseling by playing videos, the direct practice of handwashing steps, and workshops on how to make hand sanitizer. Materials provided through health education are usually able to change a person's behavior from not knowing to know [21]. After counseling, it is also hoped that the community can disseminate information to others in handling the prevention of COVID-19 transmission [22].

Before the counseling regarding handwashing and hand sanitizer, based on the respondent's pretest the mean value was 53.8710. After attending the counseling, the posttest means value increased to 82.9677. Similar to previous research, knowledge before counseling is still very low so it is necessary to conduct counseling and direct practice to increase respondents' knowledge [23]. It is proven that counseling can increase people's knowledge. Even though in the posttest there were still people who got scores below the average, but all respondents got an increase in scores from before and after the counseling. According to research conducted in 2019, there was a significant difference in the level of knowledge before counseling [24].

In addition to playing educational videos, we also practice handwashing steps directly. Because based on the results of the questionnaire, there are still many people who ignore the length of time to wash their hands using soap or hand sanitizer, people are still in a hurry and don't do the right steps. The duration of handwashing according to WHO standards are 20-30 seconds if using a hand sanitizer and 40-60 seconds if using soap and running water. This can reduce colony formation thereby reducing the number of germs/viruses [25].

In the guidance of making Hand sanitizer, people still find it difficult to determine the number of ingredients. Minimum alcohol is 60% in a mixture, therefore the amount in each ingredient must be measured accurately. To make it easier, researchers have also provided measuring cups to make it easier for the public. Hand sanitizer containing alcohol can also be an option because of its practical nature and can kill germs/viruses that stick to the hands [26].

Health counseling in the form of education and counseling can increase knowledge, this is because in the extension process it is accompanied by demonstrations and direct practice so that people can easily grasp the material. This research has an impact on the knowledge of each individual and can change the behavior of washing hands with the right soap/hand sanitizer. In addition, the community can distribute knowledge and invite the surrounding environment to wash their hands so that the sanitation of the surrounding environment becomes better.

5. Conclusion

Based on the results and discussion that there is an influence in the counseling activities of handwashing and hand sanitizer. This illustrates an increase in the average from before and after the counseling. It is hoped that the community can also change their behavior to be healthier by washing their hands properly because washing their hands with the right steps can reduce the spread and transmission of COVID-19.

Compliance with ethical standards

Acknowledgments

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Disclosure of conflict of interest

The authors declare that there is no conflict of interest that would affect the findings of this study.

Statement of informed consent

Informed consent was obtained from all participants included in this study.

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