

ORIGINAL ARTICLE

Controllers Video Intervention Increased The Prevention of COVID-19 Behavior among Family with Hypertension Elderly

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ABSTRACT

Introduction: Hypertension elderly is included in one of the vulnerable populations in the COVID-19 pandemic. The purpose of this study was to determine the effect of the audiovisual media Controllers Video (COVID-19 Prevention for Older People and Family Members Video) on the prevention of COVID-19 behavior among family with hypertension elderly. **Methods:** This study used a quantitative approach with a quasi-experimental research design and involved a control group. The sampling technique chosen was purposive sampling and the sample size obtained is 60 after the drop out process. The intervention group received audiovisual media Controllers Video for four weeks via WhatsApp messages and the control group was given leaflet after the entire series of interventions was completed. This study used a questionnaire to collect research data. The results of data collection were processed by the Wilcoxon and Mann-Whitney test after being tested not normally distributed. **Results:** The results of the analysis show that there is a significant difference in the prevention of COVID-19 behavior among family with hypertension elderly between the intervention and control groups (p -value < 0,001). **Conclusion:** The results of this study can be used as a reference to increase awareness and prevention of COVID-19 in the household, especially in families with hypertension elderly.

Keywords: COVID-19, Aged, Hypertension, Family

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This fact shows that hypertension becomes a disease that can worsen the condition if infected with SARS-CoV-2. So, preventive efforts to prevent the transmission of COVID-19 among hypertension elderly are very important.

INTRODUCTION

The global challenge in the health sector is the COVID-19 pandemic which began at the end of 2019. The incidence rate in Indonesia first appeared in March 2020. There was 28.233 positive cases of COVID-19 were reported until June 2020 and the transmission was spread throughout the province (1). Bali Province be one of the top ten provinces with the highest cases. Denpasar Regency is ranked first out of nine regencies in Bali Province, which is the highest number of deaths is 17% as of September 28, 2020 (2). This situation requires special attention, especially on aggregates belonging to the vulnerable population.

Several studies have shown that old age and hypertension make someone more susceptible to this disease. The highest mortality rate occurs in the elderly, which is 17,68% in Indonesia. In addition, the most common comorbidity detected in clients who were confirmed positive for COVID-19 in Indonesia was hypertension, which was 52,1% (1). One of the previous studies found that there was an almost 2,5-fold increase in the severity and death of COVID-19 when had hypertension (3).

Most of elderly hypertension live with their family so that COVID-19 has the potential to occur in the household. The results of community service that were carried out previously suggested that family and environmental assistance be needed to prevent COVID-19 in the elderly (4). Previous research also stated that there are several behaviors of the Indonesian people that need to be improved to prevent COVID-19 includes keeping a distance, avoiding crowds, and consuming nutritious foods (5). Therefore, health information distribution of the COVID-19 prevention should be more reliable than before Video is one of the media that can significantly influence changes in clean and healthy living behavior (6), increase knowledge (7–10), and increase in satisfaction in the level of understanding (11). However, several previous research results have not shown how the influence of audiovisual media on changes in the prevention of COVID-19 behavior among family with hypertension elderly comprehensively. It makes us interested in providing education media on preventing COVID-19 to the elderly and their families. This study aims to analyze the prevention of COVID-19 behavior among family with hypertension elderly before and

after being given audiovisual media called Controllers Video. Controllers Video is an acronym for COVID-19 Prevention for Older People and Family Members Video.

MATERIALS AND METHODS

Study design

This study used a quantitative approach with a quasi-experimental design and involved a control group.

Participant and setting

Data collection was conducted in the working area of the Denpasar Selatan Public Health Center from January 1 to February 28, 2021. The population in this study were all families with hypertension elderly living in the working area of the Denpasar Selatan Public Health Center. The sampling technique in this study used purposive sampling. The inclusion criterias are the elderly families who are registered as residents in the working area of the Denpasar Selatan Public Health Center; willing to be respondents; able to use the internet on smartphones, laptops, or PCs; able to communicate in Balinese or Bahasa; and caring for the elderly with hypertension at home. Meanwhile, the exclusion criteria in this study were caregivers who did not live at home with the elderly and were undergoing self-isolation or COVID-19 quarantine.

The sample size was calculated by using the mean approach of two unpaired populations because it uses two different groups. The estimated sample size is 29 per group, with 80% power of the test, 95% confidence interval (CI), and a statistically significant level (α) of 5%. The final result of the calculation of the sample size obtained 32 in each group, with the addition of 10% drop-out proportion. So, the total sample size is 64 with a distribution of 32 in intervention groups and 32 in control group. The respondent’s flow chart showed in figure 1.

Ethical considerations

This research has obtained information that has passed the ethical review from Health Research Ethics

Commission Institute of Health Science Bina Usada Bali with letter number 326/EA/KEPK-BUB-2020. We ensure that there are no things that can hurt the respondent physically or psychologically. In addition, we also made sure that the respondent received an explanation before agreeing to become a respondent by giving informed consent.

Data collection

The questionnaire used in this study was named The Prevention of COVID-19 Behavior Among Family with Hypertension Elderly Questionnaire. This questionnaire consists of ten statements with five item Likert-type scales (1=never to 5=always) which have been tested for validity and reliability. The analysis result showed that ten items are valid with a correlation between items-total > 0.36. Alpha reliability results are 0.831.

Procedure

Controllers Video (COVID-19 Prevention for Older People and Family Members Video) is the intervention in this study which is given in four sessions during four weeks. There are four topics in this video that are given in each intervention session weekly. The topics are how to wash hands correctly, how to use masks that are right, a healthy diet, and other behaviors to prevent the transmission of COVID-19 in the household. All respondents who agreed to participate in the study were given informed consent after previously getting a detailed explanation. Furthermore, the prevention of COVID-19 behavior among family with hypertension elderly questionnaire was given to the intervention and control groups. After that, we gave a video via WhatsApp and made sure the respondent watched the video that had been shared. Then, after the four sessions were completed, the prevention of COVID-19 behavior among family with hypertension elderly questionnaire was distributed to both groups again. The questionnaire was distributed online to elderly families with hypertension by google form. Finally, the control group was given an online leaflet as a form of equality in treating research respondents in a quasi-experimental method.

Data Analysis

There was one person from the intervention group and three people from the control group who dropped out because they were lost to follow-up. The type of data set for the prevention of COVID-19 behavior among family with hypertension elderly is numerical data. Data analysis was carried out using SPSS version 21. A homogeneity test was conducted to determine the equality of characteristics that existed between the intervention and control groups with Levene’s Test. There is no significant difference between the intervention and control groups on age, length of care for the elderly, and the number of people living in the same household variables. Univariate tests were also carried out for the characteristics of the respondents, namely the variables

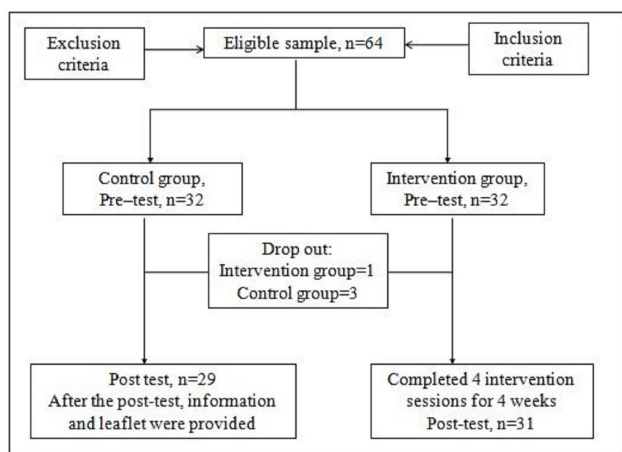


Figure 1: A groove election respondent

of age, length of care for the elderly, and the number of people living in the same household. The respondent's characteristic data is presented in terms of mean and standard deviation.

The normality test was carried out as a term for the t-test. The results of the normality test conducted with the Shapiro-Wilk test on the prevention of COVID-19 behavior among family with hypertension elderly was <0.05. It indicates that the data is not distributed normally. Thus, the bivariate test used for paired data was the Wilcoxon test, and the test used for unpaired data was the Mann-Whitney test. The level of significance (α) is 5%. Data on the the prevention of COVID-19 behavior among family with hypertension elderly is presented in the median (interquartile range).

RESULTS

Table I shows that the mean and standard deviation of the age in the intervention group and the control group were relatively the same. The mean and standard deviation of the length of stay for the elderly were relatively the same, in the range of six to seven years. In addition, the mean and standard deviation of the number of people living in the same household as the elderly were also relatively the same, namely between three and four people.

Table II shows that there are significant differences in the prevention of COVID-19 behavior among family with hypertension elderly before and after the intervention in the intervention group. However, there was no significant difference in the control group before and after the intervention. Table III shows that there are significant differences between the intervention and control groups on the prevention of COVID-19 behavior among family with hypertension elderly. These results indicate that there is an influence of audiovisual media called Controllers Video on the prevention of COVID-19 behavior among family with hypertension elderly.

DISCUSSION

The results of the univariate test showed that the average age of the intervention group and the control group was not much different, namely in the middle age ranges. This result is by following previous research that stated

Table I: Characteristics of Respondents (n=60)

Items	Mean±SD	95% CI
Age		
Intervention	47,29±16,19	40,79;53,34
Control	48,83±15,53	42,92;54,74
Length of care for the elderly		
Intervention	7,13±5,09	4,83;8,62
Control	6,66±4,48	4,95;8,36
The number of people living in the same household		
Intervention	4,55±1,52	3,88;5,02
Control	3,93±1,13	3,50;4,36

Table II: Differences of The Prevention of COVID-19 Behavior in The Family With Hypertension Elderly in The Intervention and Control Group Before and After Giving "Controllers Video" (n=60)

Variable	Group	Median (Interquartile Range)	p value*
The COVID-19 prevention behavior in the family with hypertension elderly	Intervention	Before	31 (29-35)
		After	47 (38-50)
	Control	Before	32 (29-35)
		After	32 (29-36)

*Mann-Whitney test was applied

Table III: Differences of The COVID-19 Prevention Behavior in The Family with Hypertension Elderly Between Intervention and Control Groups in Before and After Giving "Controllers Video" (n=60)

Variable	Group	Median (Interquartile Range)	p value*
Differences of the COVID-19 prevention behavior in the family with hypertension elderly	Intervention	15 (5-21)	<0.001
	Control	0 (0-2)	

*Wilcoxon test was applied

the highest age range was 46-55 years (12). The average length of time caring for the elderly is also relatively the same, six to seven years. This result is the same as previous research that stated that the longest family time in caring for the elderly was in the category above five years (13). In addition, the average number of people living at home with the elderly was relatively the same between the intervention and control groups, namely between three and four people. This data is in line with previous studies which stated that the proportion of the elderly who live with their children and grandchildren is very high (81,67%) (14). So, the elderly do not only live with their caregivers, but also other family members.

The results of the bivariate test showed that there is a significant effect of providing audiovisual media called Controllers Video on the prevention of COVID-19 behavior among families with hypertension elderly. This result is in line with previous research which states that video can provide better retention compared to leaflet media (15). Another previous studies have also stated that self-management video messages can motivate diabetic patient to do physical activity (16). In addition, psychoeducation based audio-visual program showed significant improvement in behavior of adherence for preventing tuberculosis transmission (17). Thus, some of the results of previous studies support the findings of the current study.

The influence of video on health behavior is influenced by several things that are advantages. Audiovisual messages through video media can be absorbed in least half of what is conveyed (15). Other research also states that educational video media can clarify old beliefs that are wrong to be true. Video is also mentioned as an acceptable and cost-effective media for developing

countries (18). In addition, the advantage of the video is that it increases self-efficacy and patient satisfaction with education in hospitalized stroke patients (19). An increase in belief, motivation, and self-efficacy can be a supporting variable to improve health behavior.

The intervention in this study was given to the family with hypertension elderly because the family is the primary support system owned by the elderly. "Controllers Video" seeks to optimize this task in the family by increasing preventive behavior so that it can minimize the transmission of COVID-19 at the family level. This statement is supported by previous research that states that family-based interventions for the elderly during the pandemic are appropriate and can reduce the burden on family members (20). So, based on the comparison of research results with previous research, it can be concluded that educational video media is very effective in influencing family behavior in preventing the transmission of COVID-19 in the household.

The limitation of this study is that it has not validated the results utilizing interviews or direct observation on the behavioral variables of families with hypertension elderly in implementing COVID-19 prevention. In addition, there is no standard questionnaire that can be used to measure the behavior of families with hypertension elderly in implementing COVID-19 prevention.

CONCLUSION

The results of this study stated that there was a significant effect of "Controllers Video" on the COVID-19 prevention behavior in the family with hypertension elderly. The "Controllers Video" provided in this study presented several types of COVID-19 prevention topics. Public health nurses can use this video to educate the public in efforts to prevent COVID-19. Increasing COVID-19 prevention behavior in family members will have a good impact on maintaining the home environment and the health status of all family members. Further research is needed to see the behavior of families with hypertension elderly by observation. In addition, other researchers can also use the results of this study for the development of media, variables, and others research designs in future research.

ACKNOWLEDGEMENTS

We thank the Institute of Health Science Bina Usada Bali for the funding that has been provided. We also thank all the research respondents who have participated in this research.

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