Self Management Education Healthy Life Behavior towards changes in perception and knowledge of COVID transmissio...

Eppy Setiyowati

Kresna Social Science and Humanities Research

Cite this paper

Get the citation in MLA, APA, or Chicago styles

Self Management Education Healthy Life Behavior towards changes in perception and knowledge of COVID transmission 19

Umi Hanik[1], Eppy Setiyowati[1], Ni Njoman Juliasih[2]

[1]Faculty of Nursing and Midwifery, Nahdlatul Ulama University of Surabaya
[2] Institude of Tropical Diseases, Airlangga University

Corresponding Author: eppy@unusa.ac.id (+62 81355718202)

Abstract

Introduction: Covid 19 is a deadly infectious disease caused by the corona virus, which is still a global pandemic. The purpose of this study is to determine the effect of self management education on changes in people's perceptions and knowledge in East Java. One effort to change perceptions and knowledge of the breaking of the covid 19 chain was carried out with a self management education approach. **Methods:** Quasi-experiment one group pre and post design in patients who visited polyclinic 3 hospitals in East Java as many as 150 respondents were divided into 2 groups: 75 respondents in the control group and 75 respondents in the treatment group. Sampling through simple random sampling technique. Pretest data collection to identify perceptions and knowledge, then the intervention of self management education was carried out and finally posttest conducted. Pretest and posttest data collection included closed questionnaire, data analysis was performed with Mann Whitney U test and Wilcoxon signed rank test. **Result:** Changes in perception and knowledge a significant after self management education in hospitals at East Java. **Conclusion:** self management education able to change the perception and knowledge of patients about covid transmission 19. In the future it is necessary to research more deeply about the behavior of the community towards the breaking of the covid 19.

Keyword: Covid 19, corona virus, perception, knowledge

Introduction

Covid 19 is an infectious disease caused by the corona virus that just started spreading from Wuhan, Hubei, China, attacking many people, without knowing the age, gender, level and status in community [1]; [2]. Corona virus is a group of viruses that cause disease in animals and humans [3]. Several types of coronavirus are known to cause respiratory infections in humans ranging from coughs to colds to more serious ones Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). A new type of Coronavirus has been found to cause Covid 19 [4]; [5].

Corona virus is at great risk in the age category above 50 years and also people with diseases such as heart disease, diabetes, pulmonary tuberculosis and hypertension [6]. The steps taken by the government in breaking the chain of transmission of the corona virus transmission are clean and healthy living behavior (Perilaku Hidup Bersih dan Sehat PHBS) includes washing hands 6 steps using soap and running water, washing hands with handzanitier, keeping a distance from the sick 1 meter, avoiding crowds or gatherings of people, staying silent at home (*social distancing*) [7]; [8]; [9]. In an effort to break the covid 19 distribution chain the researchers intend to deepen the study through research on perceptions and knowledge about the prevention and breaking of the covid 19 transmission chain. [10]; [11]; [12].

Efforts to break the chain of transmission of covid 19 have been echoed by the government, however, not many people have yet realized to run a clean and healthy lifestyle (PHBS) [13]; [14]; [15]. There are still many people who do not understand Covid 19, the corona virus, the corona virus distribution chain, the management of the corona virus distribution chain breaking [9]; [16]. For this reason, in this study, researchers intend to conduct research on interventions *self management education* PHBS on the perception and knowledge of covid transmission 19. The purpose of the study in general is to analyze the self management education toward perception and knowledge of covid 19. Research on bacteriology related to coronavirus replication and spread has been widely carried out, but none has focused on self management education PHBS on changing perceptions and knowledge about covid 19.

Subject and Methods

Desain
Quasi-experimental research design with approach *one group intervensi and one group control desain*. The population in 3 hospitals in East Java with a sample size of 150 respondents was divided into treatment and control groups.

Participant and recruitment
Collection of pretest and posttest data through questionnaires to measure perceptions and knowledge, participant observation to observe the process of self management education intervention. The perception questionnaire consisted of two parts, namely the perception of covid disease 19 and the perception of prevention and termination of the covid transmission chain 19, the knowledge questionnaire contained 6 domains namely know, understand, understand, analyze, synthesize and evaluate the transmission of viral corona and break the

chain covid 19 transmission according to covid 19 protocol guidelines from the Indonesian Ministry of Health.

Intervention

Researchers gave treatment in the form of self management education (SME) and demonstrations related to the breaking of the chain of distribution of covid 19 through serial video media installed in the waiting room and polyclinic, the duration of education for + 1 hour played repeatedly for 2 weeks. Supporting instruments in the research were leaflets distributed to respondents.

Statistical analyses

World Health Organization (WHO), instructing the prevention of the spread of corona virus through hand washing, using masks, social distancing and physical distancing are arranged instruments for perception and knowledge of the prevention and spread of corona [5]. The questionnaire was given during the pre-test and post-test. The research process lasted for 3 months from March to May 2020 at three hospitals in East Java, with a division of 1 month for the control group and 1 month for the treatment group. The collected data was then analyzed using the Wilcoxon signed rank rank test with significance level. The collected data is then analyzed using a statistical test *Wilcoxon signed rank test* with the level of significance $\alpha = 0,05$. That is, if it produces (p) = 0,05, then H1 is accepted, this means there is influence Self management education to changes in perceptions and knowledge about the prevention and termination of the covid transmission chain 19. To see the difference between the control and treatment groups was done uji *Mann Whitney U test* with the level of significance $\alpha = 0,05$

Result

Table 1 Table Distribution Responden on Caracteristic Demografic

Respondent Demografic	F (Control group)	% (Control group)	F (Treatment group)	% (Treatment group)
Gender:				
Male	22	29,3 %	22	29,3 %
Famale	53	70,7 %	53	70,7 %
Total Respondent	75	100%	75	100%
Age:				
>25 - < 35	15	20 %	17	22,6 %
>35 - < 45	24	32 %	32	42,7 %
>45 - < 60	36	48 %	26	34,7 %
Total Respondent	75	100%	75	100 %
Profession:				
Housewife	11	14,7 %	15	20 %
Private sector / Employee	28	73,3 %	23	30,7 %
Entrepreneur	12	16 %	17	22,7 %
Driver	27	36 %	10	13,3 %
Does not work	3	5 %	10	13,3 %
Total Respondent	75	100 %	75	100 %
Education level:				
no school	11	14,7 %	12	16 %
elementary school	15	20 %	17	22,7 %
Junior high school	23	30,7 %	27	36 %
Senior High School	19	25, 3 %	18	24 %
College	7	7, 3 %	0	0

Total respondent	75	100 %	75	100 %

Duration of treatment:				
1-2 months	13	17,3 %	34	45,3 %
2-3 months	37	49,3 %	17	22,7 %
3-4 months	25	33,3 %	24	32 %
Total Respondent	75	100 %	75	100 %

Table 2 Distribution Perception

No	Perception	Treatment Group				Control group			
		Pre test		Post Test		Pre test		Post Test	
		f	%	f	%	f	%	f	%
1	High perception	28	30,7 %	39	38,7 %	40	15 %	39	25,3 %
2	Low perception	47	25,3 %	36	32 %	35	9,3 %	36	9,3 %
	Total	75	100 %	75	100 %	75	100 %	75	100 %
	Wilcoxon Signed Rank Test	*P* = 0.000				*P* = 0,317			
	Mann-Whitney Test	Pretest *p* = 0, 167 Posttest *p* = 0,000							

Table 4 Distribution Knowledge

No	Knowledge	Treatment Group				Control group			
		Pre test		Post Test		Pre test		Post Test	
		f	%	f	%	f	%	f	%
1	High knowledge	19	16 %	13	6,6 %	23	30,7 %	20	25,7 %
2	Moderate knowledge	29	38,7 %	20	26,7 %	33	40 %	33	40 %
3	Low knowledge	27	36 %	42	56 %	20	22,7 %	22	26,7 %
	Total	75	100 %	75	100 %	75	100 %	75	100 %
	Wilcoxon Signed Rank Test	*P* = 0,046				*P* = 0,157			
	Mann-Whitney Test	Pretest *p* = 0, 061 Posttest *p* = 0,015							

Respondent demographic data Table 1describes the characteristics of respondents which include 1) gender, 2) age, 3) education, 4) work results are obtained in table 1. After analyzing the data and conducting statistical test (*Wilcoxon signed rank test* and *Mann Whitney U Test)* the results obtained in table 2. Statistical test results using *Wilcoxon signed rank test*, in the treatment group (in the group that gets self management education) was $p = 0,000$ on the variable perception of covid disease 19 means p = 0,05 then the hypothesis is accepted meaning that there is a significant effect of SME on changes in perception of Covid's 19 disease. The statistical test results using the Wilcoxon Signed Rank test, the control group (the group that did not get the SME) was $p = 0,317$ the variable perception of covid disease 19 means that there is no significant effect on changes in perception of covid disease 19. The difference in the average change in perception of the pretest in the treatment group and the control group using uji *Mann Whitney U Test* obtained $p = 0,167$, this shows that there is no average difference between the control group and the treatment group. Differences in the average perception variable at the posttest in the treatment group and the control group using the test *Mann Whitney U Test* obtained $p = 0.000$, this shows that there are differences in the average change in perception between the treatment group (the group that gets SME) and the control group (the group that does not get SME).

In the knowledge variable, statistical test results use *Wilcoxon signed rank test*, in the treatment group was $p = 0.046$ means it $p = 0.05$ then the hypothesis is accepted meaning that there is a significant effect of Self management education (SME) on changes in knowledge about the prevention and termination of the Covid transmission chain 19. In the knowledge variable, statistical test results use *Wilcoxon signed rank test*, in the control group was $p = 0.157$ means there is no difference in knowledge about the prevention and termination of the

Covid transmission chain 19. The average difference in the knowledge variables at the pretest in the treatment group and the control group using the test *Mann Whitney U test* obtained *p* = 0.061, this shows that there is no average difference between the control group and the treatment group. Difference in average knowledge about prevention and breaking of the Covid 19 transmission chain at the posttest in the treatment group and the control group using the Mann Whitney U test obtained *p* = 0.015, this shows that there are differences in the mean change in knowledge between the treatment group (the group that gets SME) and the control group (the group that does not get SME).

Discussion

The results showed changes in perceptions and knowledge of prevention and termination of transmission rates covid 19, in the pretest and posttest treatment groups through the Wilcoxon test and the Mann Whitney test it was found that there was an effect of self management education on changes in perception and knowledge on the prevention and termination of the covid transmission chain 19. This shows that the intervention given by the researcher has an effect on the change of perception and knowledge, Covid 19 is one of the deadliest diseases in the world that is currently a pandemic [17]; [18];[19]. Covid 19 is an infectious disease caused by coronavirus and is contagious [20]; [21]. The disease is currently a health problem in several countries including Indonesia [8]; [22]. Some people in Indonesia do not understand how to prevent and break the covid link 19 [23]; [24]. Covid 19 is a chronic disease that can affect several sectors of human life including health and the economy, some communities need education in order to increase understanding of healthy behavior that must be carried out in an effort to prevent transmission and breaking of the covid chain 19 [7]; [25]; [26].

The impact of the lack of perception and knowledge of co-transmission and spread of covid 19 will worsen public health conditions, because people will behave not in accordance with a clean and healthy lifestyle [27]. The inability of the community to conduct clean and healthy living behavior due to lack of socialization and an intensive approach to convey the impact of co-19 transmission on overall health. This is consistent with the measurement data of perception and knowledge carried out by researchers [28]. In this study, of the 75 respondents in the treatment group, 51 people had a high perception and 24 people had a low perception of the prevention and breaking of the covid transmission chain 19 after self management education. In the control group, 22 people had a high perception status and 53 people had a low perception of the prevention and breaking of the covid transmission chain 19. Items in the perception include viruscorona, prevention and breaking of the chain of transmission (social and physical distancing, wearing masks, washing hands with soap and hand zanitiser) [29].

On the knowledge variable, out of 75 respondents in the treatment group, 43 people have high knowledge, 23 people have moderate knowledge and 9 people have low knowledge. Knowledge is the discovery of the meaning and purpose of life that has a close relationship with self, others, nature, literature, art, and or strength greater than himself to understand and gain new experiences from every problem that is happening or experiences that have ever been experienced. In the control group, 21 people had high knowledge and 19 people had medium and 30 people had low knowledge. The items in the knowledge referred to include tofu, understanding, analysis, synthesis, and evaluation of the prevention and termination of the covid transmission chain 19.

The treatment group from table 2 shows a change in perception of the prevention and breaking of the covid transmission chain 19 for almost all respondents, while the control

group did not experience a significant difference, in the article [8] entitled Risk perceptions and behaviour: Towards pandemic control of emerging infectious diseases self management education effect on improving individual health can change the perception of individuals and society. This supports that the control group is not given education, however it is advisable to search for information through the mass media without accompanied by self management education measures not found significant differences in perception changes [10].

The treatment group from table 3 shows changes in knowledge of the prevention and breaking of the covid transmission chain 19 for almost all respondents. Self management education is education to manage the ability of the self effectively in improving the welfare of respondents' lives where this action will be more focused on the ability of the self to understand the problems associated with the prevention and breaking of the chain of transmission of covid 19 that occurred in society in the pandemic era. The healthy behavior of the community is able to prevent the exchange and breaking of the chain of distribution of Covid 19 through social and physical distancing, wearing masks, washing hands with soap and hand zanitiser [10]. While the control group did not experience a significant difference, because aspects of public awareness that were not given self management education and were advised to look for information through the media showed insignificant changes. This will cause barriers to clean and healthy behavior in daily life [30].

Self management education that has been carried out also raises the emotional strength for the community, so that the community will positively accept the current pandemic conditions as well as awareness in conducting clean and healthy life behaviors [13]. With changes in people's perceptions and knowledge of the prevention and breaking of the chain of transmission covid 19 will be able to provide emotional calm in life [31]. Thus the community's immunity will be maintained, so that the quality of life of the people will also remain in good condition.

Referensi

[1]   F. Y. Alqahtani *et al.*, "Prevalence of comorbidities in cases of Middle East respiratory syndrome coronavirus: A retrospective study," *Epidemiol. Infect.*, vol. 147, 2019, doi: 10.1017/S0950268818002923.

[2]   M. A. Sultan and M. F. Afzal, "Coronaviruses and The Current Pandemic - Editorial," no. April, pp. 4–6, 2020.

[3]   O. Kadioglu, M. Saeed, H. J. Greten, and T. Efferth, "Identification of novel compounds against three targets of SARS CoV- 2 coronavirus by combined virtual screening and supervised machine learning," 2020.

[4]   Y. Huang, L. Yang, H. Dai, F. Tian, and K. Chen, "Epidemic situation and forecasting of COVID-19 in and outside China," *Bull. World Health Organ.*, no. December 2019, pp. 2–4, 2020.

[5]   J. Pan *et al.*, "This paper was submitted to the Bulletin of the World Health Organization and was posted to the COVID-19 open site , according to the protocol for public health emergencies for international concern as described in Vasee Moorthy et al . The information he," no. February, 2020.

[6]   A. Altamimi, R. Abu-Saris, A. El-Metwally, T. Alaifan, and A. Alamri, "Demographic Variations of MERS-CoV Infection among Suspected and Confirmed Cases: An Epidemiological Analysis of Laboratory-Based Data from Riyadh Regional Laboratory," *Biomed Res. Int.*, vol. 2020, 2020, doi: 10.1155/2020/9629747.

[7]   J.-B. Li, A. Yang, K. Dou, and R. Y. M. Cheung, "Self-control moderates the association between perceived severity of the coronavirus disease 2019 (COVID-19) and mental health problems among the Chinese public," vol. 2019, no. March, pp. 1–19, 2019, doi: 10.31234/osf.io/2xadq.

[8]   J. Brug, A. R. Aro, and J. H. Richardus, "Risk perceptions and behaviour: Towards pandemic control of emerging infectious diseases: Iional research on risk perception in the control of emerging infectious diseases," *Int. J. Behav. Med.*, vol. 16, no. 1, pp. 3–6, 2009, doi: 10.1007/s12529-008-9000-x.

[9]   N. ALdowyan, A. S. Abdallah, and R. El-Gharabawy, "Knowledge, Attitude and Practice (KAP) Study about Middle East Respiratory Syndrome Coronavirus (MERS-CoV) among Population in Saudi Arabia," *Int. Arch. Med.*, vol. 10, pp. 1–12, 2017, doi: 10.3823/2524.

[10]   P. P. Equipment and D. C. L. Updated, "Coronavirus 2019 (COVID-19): Recommendations for Conserving the Supply of Personal Protective Equipment in DC All healthcare facilities should implement plans to conserve personal protective equipment (PPE) for Key Reminders : Facemasks," vol. 2019, pp. 1–4, 2020.

[11]   M. States, "World Health Organization (WHO) Information Note Tuberculosis and COVID-19 COVID-19 : Considerations for tuberculosis (TB) care 1 . Are people with TB likely to be at increased risk of COVID-19 infection , illness and death ? 2 . What should health au," no. April, pp. 1–10, 2020.

[12]   UNDP, "COVID-19 UNDP ' s Integrated Response," 2020.

[13]   G. Zhao, "[Taking preventive measures immediately: evidence from China on COVID-19].," *Gac. Sanit.*, no. xx, pp. 2–4, 2020, doi: 10.1016/j.gaceta.2020.03.002.

[14]   C. R. Thompson, M. M. Champion, and P. A. Champion, "HHS Public Access Author manuscript," *J Proteome Res.*, vol. 17, no. 9, pp. 3246–3258, 2018, doi: 10.1111/mcn.12149.

[15]   CARE, "Gender Implications of Covid-19 Outbreaks in Development and Humanitarian Settings," vol. 2019, no. 2, pp. 1–9, 2020.

[16]   S. Cantore and A. Ballini, "Coronavirus Disease 2019 (COVID-19) Pandemic Burst and Its Relevant Consequences in Dental Practice," pp. 111–112, 2020, doi: 10.2174/187421060201401.

[17]   S. Tanaka *et al.*, "Impact of travel restrictions on importation of novel coronavirus infection : An effective distance approach," no. March, pp. 3–6, 2020.

[18] M. A. Abolfotouh, A. A. AlQarni, S. M. Al-Ghamdi, M. Salam, M. H. Al-Assiri, and H. H. Balkhy, "An assessment of the level of concern among hospital-based health-care workers regarding MERS outbreaks in Saudi Arabia," *BMC Infect. Dis.*, vol. 17, no. 1, pp. 1–10, 2017, doi: 10.1186/s12879-016-2096-8.

[19] G. Spagnuolo, D. De Vito, S. Rengo, and M. Tatullo, "COVID-19 outbreak: An overview on dentistry," *Int. J. Environ. Res. Public Health*, vol. 17, no. 6, pp. 1–4, 2020, doi: 10.3390/ijerph17062094.

[20] O. Ayandele, T. Polytechnic, S. O. Kolawole, R. Oguntayo, and S. K. Iorfa, "A Preliminary Assessment of Novel Coronavirus (COVID-19) Knowledge and Perceptions in Nigeria," no. April, 2020, doi: 10.13140/RG.2.2.11053.44008.

[21] Sana Ali, Uroosa Zeb, Mashooq Khan, and A. Muhammad, "Transmission Routes and Infection Control of Novel Coronavirus-2019 in Dental Clinics – A Review," *J. Islam. Med. Dent. Coll.*, vol. 9, no. 1, pp. 65–72, 2020, doi: 10.35787/jimdc.v9i1.517.

[22] J. Li, K. Dou, L. Wang, and X. Lin, "Chinese public ' s knowledge , perceived severity , and perceived controllability of the COVID-19 and their associations with emotional and behavioural reactions , social participation , and precautionary behaviour : A national survey," pp. 1–23, doi: 10.21203/rs.3.rs-16572/v1.

[23] M. John and H. Shaiba, "Main factors influencing recovery in MERS Co-V patients using machine learning," *J. Infect. Public Health*, vol. 12, no. 5, pp. 700–704, 2019, doi: 10.1016/j.jiph.2019.03.020.

[24] A. M. Asaad, R. H. El-Sokkary, A. I. Aedh, M. A. A. Alzamanan, and F. O. Khalil, "Exploring knowledge and attitude toward middle east respiratory syndrome-coronavirus (MERS-coV) among university health colleges' students, Saudi Arabia: A cross- sectional study," *Rev. Bras. Gest. e Desenvolv. Reg.*, vol. 15, no. 1, pp. 37–43, 2019, doi: 10.3844/ajidsp.2019.37.43.

[25] R. Communication, "COVID-19 preparedness & response RISK COMMUNICATION & COMMUNITY ENGAGEMENT (RCCE) ACTION PLAN GUIDANCE."

[26] World Health Organization Regional Office for Europe, "Preparedness, prevention and control of COVID-19 in prisons and other places of detention - Interim guidance," no. March, 2020.

[27] B.-L. Zhong *et al.*, "Knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: a quick online cross-sectional survey," *Int. J. Biol. Sci.*, vol. 16, no. 10, pp. 1745–1752, 2020, doi: 10.7150/ijbs.45221.

[28] F. Leal, "Response of Adaptive Complex Systems Science to Pandemic Risk for a New Coronavirus," no. February, pp. 0–5, 2020.

[29] R. Lo Giudice, "The Severe Acute Respiratory Syndrome Coronavirus-2 (SARS COV-2) in dentistry . Management of biological risk in dental practice," vol. 2, no. March, 2020.

[30]   A.-R. Jazieh *et al.*, "Managing Oncology Services During a Major Coronavirus Outbreak: Lessons From the Saudi Arabia Experience," *JCO Glob. Oncol.*, no. 6, pp. 518–524, 2020, doi: 10.1200/go.20.00063.

[31]   T. Sardar, I. Ghosh, X. Rodó, and J. Chattopadhyay, "A realistic two-strain model for MERS-CoV infection uncovers the high risk for epidemic propagation," *PLoS Negl. Trop. Dis.*, vol. 14, no. 2, pp. 1–20, 2020, doi: 10.1371/journal.pntd.0008065.