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Covid-19 Prevention through Community Empowerment as an Effort to Reduce Stress Levels during the Implementation of the #Sesarengan Jogo Sleman Program

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ABSTRACT

People should be empowered such that they take responsibility for their health and follow a healthy lifestyle based on the health-promoting approach. With empowerment programs, it is hoped that people can face problems and tasks in their lives with a better control. This study was conducted to specify the correlation between community empowerment in Covid-19 prevention with stress level among Sleman citizen during the implementation of the #Sesarengan Jogo Sleman Program, an enforcement of restrictions on community activities program during Covid-19 pandemic by the government. This research was non-experimental study with a cross-sectional design and was conducted on July 6, 2021 until July 10, 2021. The questionnaire was distributed online. The population of this research were health workers at the *puskesmas* (health center), head of RT, head of RW, village apparatus, Bhayangkara trustees of community security and order (Babinkamtibmas), religious leaders/ community leaders, health cadre, and Sleman citizens. The sample size in this research were 568 people. Pearson product moment test were used for data analysis. The research results showed that the r was -0.631 and the p-value was 0.000, it's means that there was a strong, negative, and significant correlation between community empowerment in Covid-19 prevention and stress level. Community empowerment in Covid-19 prevention is a predictive variable to have a stress. Therefore, by increasing community empowerment in Covid-19 prevention, the stress level can be reduced.

Keywords: Covid-19 prevention; community empowerment; stress level

INTRODUCTION

Background

A new virus called SARS-CoV-2 appeared in Hubei Province, China, specifically in Wuhan City at the end of 2019 according to official World Health Organization data[1]. Chinese scientists had successfully genetically sequenced it, enabling the rapid development of real-time RT-PCR diagnostic tests by January 7, 2020[2]. After going through the sequence and evolutionary tree analysis, SARS-COV-2 is classified as part of the β-CoVs family that causes respiratory, enteric, hepatic, and neurological diseases[3]. The main route of SARS-CoV-2 transmission is between humans and humans, causing the spread to become more aggressive[4]. The pandemic not only represents a problem in terms of physical health, but also involves repercussions on the mental health of individuals such as stress. The main problems are related to the need to maintain social isolation or distancing and which, in some way, represents a risk for the development of anxiety, stress, violence, depression, and other mental health disorders[5,6,7,8].

Unprecedented restrictions have been put in place on people's daily lives all over the world to contain the COVID-19 pandemic which may be triggering psychological symptoms of anxiety, stress, and depression[9]. Confinement (lockdown or quarantine) at home, the containment measure for the virus chosen by most governments, may have had immediate and long-term repercussions on people's mental health and quality of life[10, 11], and has been positively associated with depressive symptoms[12, 13], anxiety, and stress in situations of crisis[14].

The severe acute respiratory syndrome (SARS-CoV) that occurred in 2002-2003 and the Middle East respiratory syndrome (MERS-CoV) that detected in the Arabian Peninsula in 2013 are contrasts with the Covid-19 pandemic, it is due to the case fatality rate of COVID-19 is around 3%, while for SARS-CoV and MERS-CoV it is approximately 10% and 34%, respectively[15]. Various conditions such as: age, tobacco use, obesity, and comorbidity with some conditions such as hypertension and diabetes has been observed that can affect Covid-19 case fatality rates[16, 17]. The case fatality rates in each country are very diverse, particularly in risk or vulnerable populations. In the case of Covid-19 pandemic, those who present any of the aforementioned conditions, or in their case, older adults, tend to have more adverse and unfortunate consequences, both in terms of their physical health, where the prognosis for recovery is complicated, as in their mental health, or in the psychological consequences that they usually present[18].

The onset of Covid-19 symptoms occurs approximately three to six days after exposure, with an average incubation of five days[19, 20]. Although most of the infections reported by Covid-19 are not serious, there is data suggesting that 30% of hospitalized patients may require intensive care. It is important to note that most fatal cases of COVID-19 occurred in patients with pre-existing comorbidities [21].

Indonesia is one of the countries affected by this virus until July 5th, 2021, 2.313.829 people are confirmed to be COVID-19 positive. Since the outbreak of Corona Virus Disease 2019 (Covid-19) in Wuhan City, China until the emergence of the first case of the Covid-19 pandemic in Indonesia on March 11, 2020 [22,23,24]. On June 28th, 2021 Sleman mayor, Kustini Sri Purnomo, announced the #Sesarengan Jogo Sleman Program, an enforcement of restrictions on community activities program during Covid-19 pandemic. This program is implemented from June 28, 2021 to July 3rd, 2021 to apply social distancing and encouraged people to work, study, worship at home and postponed any large-scale events. However, this preventive policy has affected the education sector since March 2020, 7th Students in Sleman have to study online from home. Impact psychologically on community cover lack of social interaction, boredom due to staying at home, a lot of work, change in daily routine, and fear of Covid-19 infection [25].

The community empowerment pattern is a form of effort taken by the government to develop, independent and empower the community to be able to make changes that aim to improve the quality of regional potential. Community empowerment is a development carried out for the community by increasing the ability to determine their future and participate in influencing their lives[26]. Thus, community empowerment is a development carried out for the community by increasing the ability to determine their own future and participate in influencing their own lives. Entering the new normal era, the implementation of community empowerment is required to adapt and change old patterns. If the previous community empowerment approach was such as meeting with the community face-to-face and attended by many people, now it is starting to adapt by limiting each community meeting as well as additional health protocols that must be implemented in the community. Other changes are restrictions on working hours, activities outside the home, using masks in every activity outside the home and always washing hands every time you go out of the house.

The Covid-19 pandemic has had a very significant impact on changing people's lives. Both from rural communities to urban communities. In this society. Demanded to adapt and change old patterns in social life, there has been a change in the village empowerment approach that was carried out in the past, such as face-to-face meetings with many people, now starting to adapt by limiting each community meeting as well as additional health protocols that must be implemented. Another change is the limitation of hours of
 activities outside the home, wearing a mask in every activity and always washing hands every time you go out of the house[27].

Purpose

This study aims to determine the correlation between community empowerment in Covid-19 prevention with stress level among Sleman citizen during the implementation of the *#Sesarengan Jogo* Sleman Program.

METHODS

This study was a correlational analytic quantitative research that aims to determine the correlation between dependent variable and independent variables. The researcher applied a non-experimental type of study with a cross-sectional research design in which the data collection process on the research variables was carried out at one time. The research population was the health workers at the *puskesmas* (health center), head of RT, head of RW, village apparatus, Bhayangkara trustees of community security and order (*Bhabinkamtibmas*), religious leaders/ community leaders, health cadre, and Sleman citizens. Determination of the research sample using random sampling technique on the population that suitable with the inclusion criteria in this study. The number of samples in this research were 568 people.

The dependent variables in this study was stress level among Sleman citizen during the implementation of the #*Sesarengan Jogo* Sleman Program. The independent variable in this study was community empowerment in Covid-19 prevention among Sleman citizen. Each research variable was defined as follows: 1) Stress level among Sleman citizen during the implementation of the #*Sesarengan Jogo* Sleman Program was any type of change that causes physical, emotional, or psychological strain during the implementation of the #*Sesarengan Jogo* Sleman Program. The stress parameter used was the Depression Anxiety Stress Scales-21 (DASS-21) questionnaire with interval data scale for hypothesis test and ordinal data scale for descriptive explanation; 2) Community empowerment in Covid-19 prevention was a integrative program to prevent the Covid-19 Pandemic involving various elements of society with the division of tasks and responsibilities according to their respective roles based on guidelines from the Ministry of Health of the Republic of Indonesia. To decide the parameter researcher used the community empowerment score with interval data scale for hypothesis test and ordinal data scale for descriptive explanation. This score showed the quality of implementation of community empowerment program on Covid-19 prevention strategy.

The data on the stress score obtained by the DASS-21 questionnare was adapted from Dirga Filannira Desky (2021) with modifications based on the Covid-19 pandemic conditions[28]. The validity of the questionnaire was tested using the Pearson Correlation Product Moment formula with an error level (α) of 0.05. The validity test shows the results of the calculated r count of 21 statement items in the range of 0.366-0.874 so that the questionnaire was declared valid. After testing the reliability on the research questionnaire with the Cronbach's Alpha (α) formula, the DASS-21 declared reliable with Cronbach's Alpha values of 0.793. A total score was computed, with upper values indicating a higher severity of stress, which can be ranked as follows: 0-9 = normal; 10-13= mild; 14-20= medium; 21-27= heavy; $\geq$28 = super heavy.

The validity of the community empowerment in Covid-19 prevention questionnaire was tested using the Pearson Correlation Product Moment formula with an error level (α) of 0.05. The validity test shows the results of the calculated r count of 32 statement items in the range of 0.416-0.886 so that the questionnaire is declared valid. After testing the reliability on the research questionnaire with the Cronbach's Alpha (α) formula, the quetionnare declared reliable with Cronbach's Alpha values of 0.759. A total score was computed, with upper values indicating a higher severity of stress, which can be ranked as follows: <27 = bad; $27 \leq x < 59$= quite good; $59 \leq x < 90$= good; $x \geq 90$= very good.

In accordance with International Ethical Guidelines for Health-related Research Involving Humans by Council for International Organizations of Medical Sciences (CIOMS 2016) this research has complied with all the main ethical principles in guideline 22 regarding used of data obtained from the online environment and digital tools in health related research. Researchers collected the data by distributing a google form link containing a demographic questionnaire, community empowerment in Covid-19 prevention questionnaire and DASS-21 questionnare via the Whatsapp (WA) short message application. Then the respondent will fill out the research instrument in the form of a questionnaire that has been provided according to the time determined by the researcher.

The data analyzed using descriptive statistic and hypothesis testing which used Pearson Product Moment test. The data normality test on activeness in community empowerment in Covid-19 prevention and stress used Kolmogorov-Smirnov's analysis. In this study, the Pearson Product Moment test (t test) was used to determine the correlation between community empowerment in Covid-19 prevention (X) and stress (Y). If the value of $t_{statistic} >$ t_{table} or p-value more than 0.05 it means that there is a correlation between the independent variable and the dependent variable. Data on activeness in student community empowerment in Covid-19 prevention (X) and stress (Y) are normally distributed with a ρ-value of more than 0.05. The data was analysed using SPSS version 22.0 by International Business Machines Corporation (IBM). The demographic data presented descriptively, the variables tested using a Pearson Product Moment test with a risk estimate and 95% confidence interval.

All principles from the Declaration of Helsinki and International Ethical Guidelines for Health-related Research Involving Humans by Council for International Organizations of Medical Sciences (CIOMS 2016) were followed. All participants were provided with information regarding the objectives of the study, the subject-matter addressed by the questions, voluntariness, and confidentiality of participation, and the institutions involved in the implementation of the study. Based on an ethical certificate conduct by the Ethics Committee of the Poltekkes Kemenkes Yogyakarta, Number e-KEPK/POLKESYO/0078/V/2021 this research has been declared in accordance with research ethicsand, in addition all respondent on this research were asked to provide their consent.

RESULTS

Distribution of Characteristics of Respondents

Based on the research data, it is known that the majority of respondents are female or 50,7% with the majority age belonging to the early adults of 55,5%. Most of the respondents are graduated from college/

university or represent 59.3% of the total number of respondents. The respondent characteristic shown in the table 1.

Based on table 1 respondents in this study came from three different profession categorys with the highest frequency coming from the respondents who are work not in the health sector by 75.7% of all respondents. The data distribution from the respondent's social role in community empowerment divided into six social roles with the largest number of respondents belong to the citizen as their social role in community empowerment which represents 93.1% of the total research respondents. Majority of the respondent get information about Covid-19 from social media/ electronic media/ newspaper and represent 91.4% of all respondents.

Table 1. Distribution of characteristics of respondents

Respondent's Characteristics	Frequency	Percentage
Gender		
a. Male	280	49.3
b. Female	288	50.7
Age		
a. Early adolescents (12-15 years)	10	1.8
b. Middle adolescents (15-18 years)	35	6.2
c. Late adolescents (18-21 years)	71	12.5
d. Early adults (21-40 years)	315	55.5
e. Middle adults (40-60 years)	133	23.4
f. Elderly (>60 years)	4	0.7
Education Level		
a. Elementary school	10	1.8
b. Junior high school	38	6.7
c. Senior high school	182	32.0
d. College/ university	337	59.3
Profession		
a. Work not in the health sector	430	75.7
b. Work in the health sector	19	3.3
c. Not working	119	21.0
Social Role in Community Empowerment		
a. Health workers at the *puskesmas* (health center)	6	1.1
b. Head of RT, Head of RW, village apparatus	6	1.1
c. Bhayangkara trustees of community security and order (Babinkamtibmas)	9	1.6
d. Religious leaders/ community leaders	3	0.5
e. Health cadre	15	2.6
f. Citizens	529	93.1
Information source related to Covid-19		
a. Family/ neighbors/ friends/ close people	20	3.5
b. Health workers	29	5.1
c. Social media/ electronic media/ newspaper	519	91.4

The description of community empowerment level and stress level during #*Sesarengan Jogo* Sleman Program based on respondents characteristics in this study is presented in table 2.

From the table 2 it can be seen that 52.4% respondents who had heavy stress level are women. Women reported feeling more stress and overwhelmed than men during the confinement, but dealt with changes and managed confinement similarly to men[29]. The results of the present study showed that it is women who present the highest stress symptoms and anxiety and who perceive a greater impact due to the situation of the pandemic in contrast to men, which agrees with previous literature[30],[31],[32],[33]. The findings by Gonzales in general showed significant effects, with women showing higher scores in depressive symptoms, anxiety, and greater stress generated in addition by the impact of the event. A study from China states how females experienced more severe stress and anxiety symptoms than males[34]. Most of the respondents who categorize as the heavy stress level are early adults it's about 58,2%. This data corresponds with other studies, such as in Canada that says how stress and anxiety affect adolescents[35]. Differences concerning event-related stress and depression caused by Covid-19 were

found in relation to subgroups by age[36]. The Cecchetti study also show that perceived stress was significantly lower in those aged over 40 than those under 40, and the older group managed confinement better. Women of who are 70 to 79 years old were those who presented the greatest stress generated by the pandemic[36].

Table 2. Description of community empowerment level and stress level during *#Sesarengan Jogo* Sleman Program based on respondents characteristics

Respondents characteristics	Community empowerment level during #Sesarengan Jogo Sleman Program (X)								Stress level during #Sesarengan Jogo Sleman Program (Y)							
	Very good		Good		Quite good		Bad		Normal stress level		Mild stress level		Medium stress level		Heavy stress level	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Gender																
a. Male	1	33.3	83	50.9	177	49.7	19	41.3	9	60.0	29	56.9	143	48.6	99	47.6
b. Female	2	66.7	80	49.1	179	50.3	27	58.7	6	40.0	22	43.1	151	51.4	109	52.4
Age																
a. Early adolescents (12-15 years)	0	0	4	2.5	4	1.1	2	4.3	0	0	0	0	8	2.7	2	1.0
b. Middle adolescents (15-18 years	1	33.3	8	4.9	22	6.2	4	8.7	2	13.3	5	9.8	16	5.4	12	5.8
c. Late Adolescents (18-21 years)	0	0	20	12.3	45	12.6	6	13.0	1	6.7	1	2.0	42	14.3	27	13.0
d. Early Adults (21-40 years)	2	66.7	82	50.3	204	57.3	27	58.7	8	53.3	26	51.0	160	54.4	121	58.2
e. Middle Adults (40-60 years)	0	0	46	28.2	80	22.5	7	15.2	4	26.7	19	37.3	65	22.1	45	21.6
f. Elderly (>60 years)	0	0	3	1.8	1	0.3	0	0	0	0	0	0	3	1.0	1	0.5
Education Level																
a. Elementary School	0	0	4	2.5	4	1.1	2	4.3	2	1.0	0	0	0	0	8	2.7
b. Junior High School	1	33.3	11	6.7	22	6.2	12	26.1	3	20.0	5	9.8	18	6.1	12	5.8
c. Senior High School	1	33.3	55	33.7	114	32.3	4	8.7	5	33.3	13	25.5	92	31.3	72	34.6
d. College/ university	1	33.3	93	57.1	215	60.4	28	60.9	7	46.7	33	64.7	166	56.5	327	57.6
Profession																
a. Work not in the health sector	1	33.3	2	77.9	273	76.7	29	63.0	10	66.7	44	86.3	210	71.4	166	79.8
b. Work in the Health Sector	1	33.3	2	1.2	11	3.1	5	10.9	3	20.0	1	2.0	15	5.1	0	0
c. Not working	1	33.3	34	20.9	72	20.2	12	26.1	10	66.7	44	86.3	210	71.4	42	20.2
Social role in community empowerment																
a. Health workers at the *puskesmas* (health center)	1	33.3	1	0.6	2	0.6	2	4.3	2	13.3	0	0	4	1.4	0	0
b. Head of RT, Head of RW, village apparatus	0	0	2	1.2	4	1.1	0	0	0	0	3	5.9	1	0.3	2	1.0
c. Bhayangkara trustees of community security and order (Babinkamtibmas)	0	0	2	1.2	5	1.4	2	4.3	2	13.3	1	2.0	2	0.7	2	1.0
d. religious leaders/ community leaders	0	0	2	1.2	1	0.3	0	0	0	0	0	0	3	1.0	0	0
e. Health cadre	0	0	5	3.1	8	2.2	2	4.3	0	0	3	5.9	8	2.7	4	1.9
f. Citizens	2	66,.7	151	92.6	336	94.4	40	87.0	11	73.3	44	86.3	276	93.9	198	95.2
Information source related to Covid-19																
a. Family/ neighbors/ friends/ close people	0	0	7	4.3	11	3.1	2	4.4	0	0	3	5.9	7	2.4	10	4.8
b. Health workers	1	33.3	6	3.7	16	4.5	6	13.0	3	20.0	4	7.8	19	6.5	3	1.4
c. Social media/ electronic media/ newspaper	2	66.7	150	92.0	329	92.4	38	82.6	12	80.0	44	86.3	268	91.2	195	93.8

From all respondents who have a heavy stress level 57.6% of them are respondents who graduated from collage/ university. Based on study by Argo in 2020 The severity of stress was significantly associated with gender (p<0.001) and education (p=0.018)[37]. Based on social role in community empowerment respondents who dominate the heavy stress level are citizens (95.2%). Study by Fitri in 2020 show that the role of individuals in an organization is related to stress[25]. Almost all respondents who have heavy stress level (93,8%) access information related to Covid-19 from social media/ electronic media/ newspaper. Social media has effect to depression, anxiety and stress occurrence (p-value <0.05) during Covid-19 pandemic[38] .

As many as 60.9% of all respondents who assessed that the implementation of the community empowerment program in an effort to prevent Covid-19 was bad were university graduates. Therefore, at least a strategic policy step from the central government is needed that can strengthen the role of Higher Education, as well as to answer the challenges and opportunities for community empowerment practices during the pandemic Covid-19 through the role of higher education[39].

Hypothesis Test Results

From table 3, it can be seen that all respondents who assessed that the implementation of community empowerment in preventing Covid-19 was very good had a normal stress level. Respondents who had a normal stress level of 53.3% considered that the implementation of community empowerment in preventing Covid-19

was good. On the other hand, respondents who assessed that the implementation of community empowerment in preventing Covid-19 was bad, the majority had heavy stress levels (90.4%).

Table 3. Distribution of stress level during #*Sesarengan Jogo* Sleman Program based on community empowerment level

Community empowerment level during #Sesarengan Jogo Sleman Program (X)	Stress level during #Sesarengan Jogo Sleman Program (Y)								Total (n=568)	
	Normal stress level		Mild stress level		Medium stress level		Heavy stress level			
	n	%	n	%	n	%	n	%	n	%
Very good	3	20.0	0	0	0	0	0	0	3	0.5
Good	8	53.3	39	76.5	111	37.8	5	2.4	163	28.7
Quite good	2	13.4	8	15.7	158	53.7	188	90.4	356	62.7
Bad	2	13.3	4	7.8	25	8.5	15	7.2	46	8.1
Total	15	100.0	51	100.0	294	100.0	208	100.0	568	100.0

To prove the existence of a correlation between the two variables in this study, the Pearson Product Moment test was carried out as follow.

Table 4. Pearson Product Moment test result

Variable	α	r	p
Community empowerment level and stress level during #*Sesarengan Jogo* Sleman Program	0,05	-0,631	0,000

Correlation among community empowerment level and stress level during #*Sesarengan Jogo* Sleman program based on table 4 shows that the two variables had a significant correlation because the p-value was greater than 0.05 and had a strong correlation level (r = -0.631), with negative correlation. This means that if there is an increase in the community empowerment level variable, there will be an decrease in the stress variable.

DISCUSSION

Theory in the practice of community empowerment describe the distribution of power and resources in society, how the functions of the organization and how the system in society defends itself. The theory in community empowerment contains: cause and effect relationship that must be tested empirical. Community development as a model of development approach (bottoming up approach) is an effort to involve the active community and local resources. In community development, attention should be paid to that people have traditions, and have customs, which is possible as a potential that can developed as social capital. Community participation focuses on how community empowered and what role they play once they become part of the empowered group. Based on guidelines from the Indonesian Ministry of Health regarding the implementation of community empowerment in preventing Covid-19, the community is divided into several social roles, each of which has different duties and responsibilities. These roles include: health workers at the puskesmas (primary health care), head of RT, head of RW, village apparatus, bhayangkara trustees of community security and order (babinkamtibmas), religious leaders/ community leaders, health cadre, and citizens[40].

Social restrictions during the implementation of the #*Sesarengan Jogo* Sleman Program force every social role in society to play its role in implementing community empowerment for the prevention of Covid-19. Conditions that are completely limited by strict health protocols allow stress to arise in community. The community empowerment program in the prevention of Covid-19 was investigated to reveal the fact whether community empowerment can reduce stress levels during social restrictions. Correlation among community empowerment level and stress level during #*Sesarengan Jogo* Sleman program based on table 4 shows that the two variables have a significant correlation and has a strong relationship level with negative correlation. It's means that if there is an increase in the community empowerment level variable, there will be an decrease in the stress variable. Study by Fibriana in 2021 concluded that prevention and control of the spread of Covid-19 through health promotion by empowering the community to achieve a healthy state, a person or group must be able to identify and realize aspirations, be able to meet needs and change or control the environment[27]. hat the prevention and control of the spread of Covid-19 through health promotion by empowering the community to achieve a healthy state, a person or group must be able to identify and realize aspirations, be able to meet needs and change orcontrol the environment. A community empowerment innovation that is able toreduce epidemiological indicators, such as morbidity, mortality and transmission rates.

The results of the study by Afrianti in 2021 found that there were five factors that have a significant relationship with community compliance with health protocols namely age, education, knowledge, attitude, and motivation so that it is known that these variables have a real influence on community compliance to health protocols[28]. Based on the results of this study, community empowerment must continue to be carried out according to the guidelines set by the ministry of health in preventing Covid-19. Putri in 2021 wrote a report on how the emergence of panic in a person due to Covid-19 such as; emergence of behavior of someone who always brings soap and hand sanitizer wherever they go[41]. Not only that, the condition of the body that has a fever (chills) and itching in the throat immediately raises the worry of being exposed to Covid-19. Even in other reports it is said that reading information about the symptoms of Corona (Covid-19) can make someone feel sick[42], even though the condition occurs is more due to psychomatic disorders[43]. By implementing community empowerment in preventing Covid-19, the phenomenon of stress in the community can be suppressed with humane actions by prioritizing an attitude of kinship and mutual help.

During the research process, there were several limitations, namely the three questionnaires with a large number of statement items and were filled out online. Respondents filled out the questionnaire independently without face-to-face with the researcher so that the researcher could not set a conducive atmosphere for the respondent during the process of filling out the questionnaire. Another limitation is in the form of explanations before the research to respondents and written informed consent because researchers cannot meet face-to-face with respondents during the Covid-19 pandemic.

Filling out the questionnaire via google forms independently without being accompanied by a researcher or research assistant has a weakness where when the respondent experiences difficulties, the researcher cannot provide a direct explanation. Research that uses an instrument in the form of a questionnaire distributed to respondents online has drawbacks where the researcher cannot ensure that the questionnaire is actually filled out by the respondent concerned.

CONCLUSION

The result of this study state that there was a strong, negative, and significant correlation between community empowerment in Covid-19 prevention and stress level during the implementation of the #*Sesarengan Jogo* Sleman Program. Community empowerment in Covid-19 prevention is a predictive variable to have a stress.

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