

Original Research

Analysis of Factors and Situations Influencing Preventive Behaviours for the Spread of COVID-19 in Adults with Chronic Diseases and Older Adults



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Article Info	Abstract
<p>Article history: Received: 13 September 2022 Accepted: 27 November 2022</p>	<p><i>Introduction:</i> The older adults and people with comorbidities are more susceptible to the infected of the COVID-19 virus, and have a higher risk of mortality compared to other populations. Steps to prevent transmission have been taken by the government, such as socializing physical distancing movements, staying at home, wearing masks when leaving the house, to prohibiting people from going to village. This study wants to know the factors and situations that influence the behaviour of preventing COVID-19.</p>
<p>Keywords: preventive behaviour, older adult, chronic disease, COVID-19</p>	<p><i>Methods:</i> This research design uses observational design with correlation description approach. The total population is 148, obtained a sample of 126 respondents using the Slovin's formula. Random sampling technique used with the help of the excel application. The older adult's group was 63 respondents and the chronic disease group was 63 respondents. The researcher used 11 questionnaires and multivariate analysis test results using SEM with SmartPLS.</p> <p><i>Results:</i> The results of the multivariate analysis test using SEM (Structural Equation Modeling) with SmartPLS (Partial Least Square) showed that the factors that influenced COVID-19 prevention behaviour in the older adult's group were knowledge, while in the chronic disease group was social support and attitude towards COVID-19.</p> <p><i>Conclusion:</i> It is hoped that it can improve preventive behaviour against COVID-19 by understanding what factors are weakening or factors that can increase the risk of COVID-19 transmission in the elderly and people with chronic diseases, and can be a policy reference in implementing the protocol of COVID-19 for the Village Government.</p>

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INTRODUCTION

The corona virus is known as COVID-19 (Coronavirus Disease 2019) based on a case cluster report that occurred in Wuhan, China on December 31, 2019. This virus is transmitted between humans and has been declared a pandemic by the World Health Organization. COVID-19 has impacted many people around the world, reported in the epidemiological update every week in March 2022 more than 11 million new cases, more than 455 million confirmed cases, and more than 6 million deaths globally [1]-[3]. The older adults are more vulnerable to this corona virus invasion. Various research results show that the older adult's population and those with comorbidities have a higher risk of mortality compared to other populations. The influence of a history of diabetes, hypertension, chronic kidney failure, chronic obstructive pulmonary disease and the presence of respiratory symptoms need to be studied properly to become the basis for implementing further health policies related to the priority of health services for COVID-19 patients to efforts to suppress the increase in the prevalence of non-communicable diseases. such in the future [3], [4].

This pandemic is a big challenge for society. What preparations should we have? What precautions should we take? Many health guidelines and protocols have been issued by WHO and the government for the public in dealing with the COVID-19 pandemic. Health protocols such as vaccination, maintaining a physical distance of at least 1 meter, wearing the correct mask,

cleaning hands frequently, covering mouth and nose when coughing or sneezing, and if you experience symptoms or test positive for COVID-19, you must isolate yourself until you recover [5], [6].

The health protocol is a behaviour that the community has needed to adapt for a long time because we do not know when this pandemic will end. People need to follow health protocols in their daily activities as our new normal life, especially for people who have chronic diseases and the older adults. To examine changes in people's behaviour towards the COVID-19 pandemic, the PRECEDE-PROCEED model is discussed in this study [7]. The PRECEDE-PROCEED model focuses on the community as a source of health promotion. It is very suitable to explain changes in people's lifestyles towards the COVID-19 pandemic. This study wants to know the factors and situations that influence the behaviour of preventing COVID-19.

METHODS

The design of this study used observational design with correlation description approach to examine predisposing factors, supporting factors, and reinforcing factors on COVID-19 prevention behaviour. Study population consisted of a group of older adults and with chronic diseases respondents in Pandansari Krajan Hamlet, Pandansari Village, Malang Regency, East Java, Indonesia, 145 dan 135 respondents respectively. The sample is defined as part of the study population that represents the characteristics of the population. Inclusion criteria: Chronic disease group, namely: 18-60 years old, have chronic

diseases (eg: DM, Hypertension, etc.). Older adults group, namely: Age 61-80 years, respondents are in good health. Exclusion criteria: Chronic diseases and older adults' group, namely: Respondents with hearing or speech impairment, and suspects or symptoms or suspicion of COVID-19. The number of respondents who met the criteria for the research sample (intrinsic and extrinsic criteria) was 74 in the elderly group and 74 in the chronic disease group. The number of samples using the Slovin's formula with each group obtained the number of samples for each group of 63 respondents.

Total respondents A total of 126 respondents were involved in this study. Consisting of a group of elderly respondents as many as 63 respondents with a chronic disease group as many as 63 respondents. The sampling technique of respondents using random sampling technique or randomized using the help of an excel application with the Randbetween r formula.

The research instrument was developed by the researcher, it was 11 questionnaires which included; demographic records questionnaire; general health questionnaire; knowledge questionnaire on COVID-19 prevention; a questionnaire of confidence in the nursing profession; attitude questionnaire towards COVID-19; the COVID-19 infection risk perception questionnaire; a questionnaire on the perceived severity of COVID-19; the self-perceived efficacy questionnaire of COVID-19 prevention; resilience questionnaire; perceived social support questionnaire; health service accessibility questionnaire and COVID-19 prevention behaviour questionnaire. The

validity and reliability tests in this study used the Cronbach's Alpha test which showed directly the results of the validity and reliability of a questionnaire used in the study. The result is known that the 250 question items are valid, because the p value < 5%. After testing the validity, the researchers then conducted a reliability test. From the results of the reliability test, it is known that the 250 question items that have been tested are declared reliable with the Cronbach's Alpha test value of 0.80. So that all items in the questionnaire can be used. Data analysis in this study is univariate analysis and multivariate analysis. Univariate analysis using frequency test with the help of SPSS v.26 application, while for multivariate analysis test using SEM with SmartPLS.

The implementation of this research has received permission from the Pandansari Village Government, Poncokusumo District, Malang Regency with the number 070/321/35.07.07.2003/2022 issued on April 19, 2022, and has received permission to carry out research from the National Unity and Political Agency of Malang Regency with number 072/869/35.07207/2022 issued on 22 April 2022. The informed consent was obtained in home of the respondent, Pandansari Village Government, Poncokusumo District, with number of letter 070/321/35.07.07.2003/2022.

RESULTS

The results of the multivariate analysis test using SEM (Structural Equation Modeling) with SmartPLS (Partial Least Square) showed that the factors that influenced COVID-19

prevention behaviour in the older adult's group were knowledge, while in the chronic

disease group was social support and attitude towards COVID-19.

Table 1
Respondent Demographic Data

Respondent Characteristic	Older Adults Group		Chronic Disease Group	
	Σ	(%)	Σ	(%)
Gender				
▪ Male	27	42,9	24	38,1
▪ Female	36	57,1	39	61,9
Education				
▪ No School	1	1,6	23	36,5
▪ Elementary school	21	33,3	39	61,9
▪ Junior high school	39	61,9	1	1,6
▪ Bachelor	2	3,2	0	0
Marital Status				
▪ Single	0	0	3	4,8
▪ Married	59	93,7	60	95,2
▪ Widow	4	6,3	0	0
Occupation				
▪ No Work	2	3,2	21	33,3
▪ Factory workers	6	9,5	3	4,8
▪ Private	7	11,1	5	7,9
▪ Farmer	43	68,3	31	49,2
▪ Business	5	7,9	3	4,8
Residential house with				
▪ Spouse	9	14,3	20	31,7
▪ Spouse and children	52	82,5	38	60,3
▪ Others	2	3,2	5	7,9
Health problem				
▪ There is	63	100	63	100
	Mean	Std. Deviation	Mean	Std. Deviation
Age	62,9524	1.73604	56,17	7.75125
Income	913.492	307724.000	866.666	263353.069

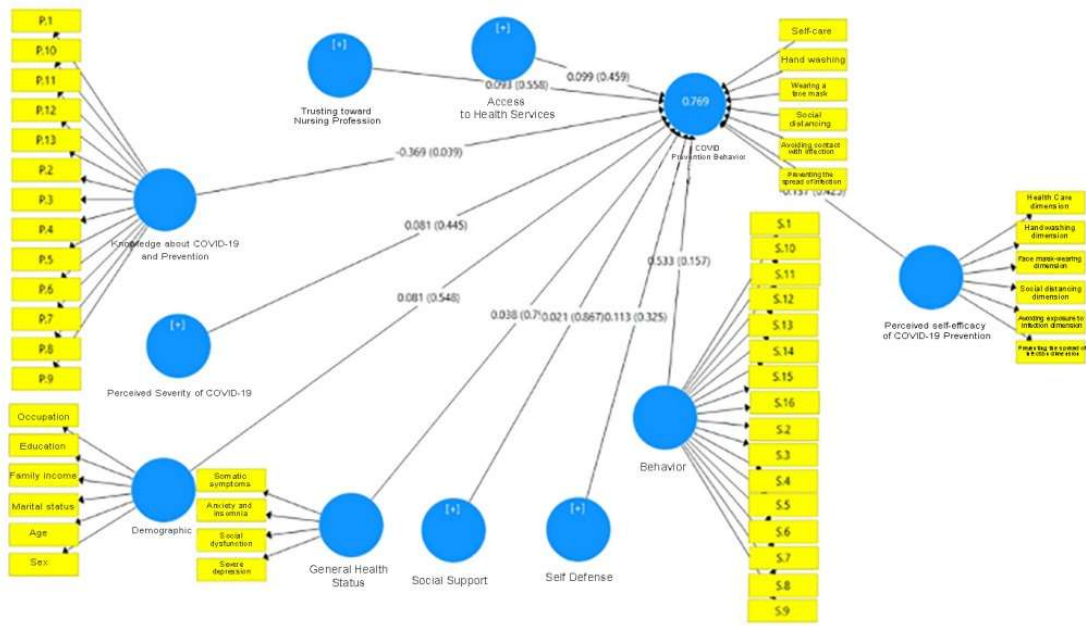


Fig. 1. Path analysis for PLS : Output Results Older Adults Group

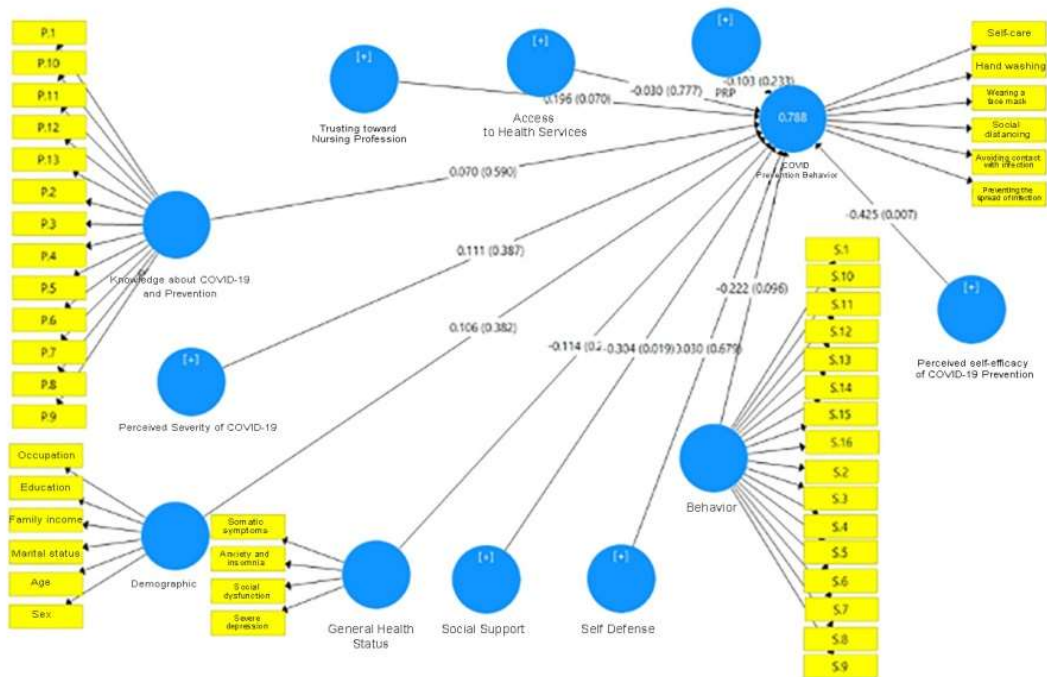


Fig. 2. Path analysis for PLS : Output Results Chronic Disease Group

Table 2

Factors that influence COVID-19 prevention behaviour in the older adults group

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/ STDEV)	P Values
Access to health services	0.099	0.096	0.134	0.741	0.459
Demography	0.081	0.012	0.135	0.601	0.548
Social support	0.021	0.055	0.127	0.168	0.867
Self-ability in preventing COVID-19	-0.137	-0.089	0.172	0.799	0.425
Trust in the Nursing Profession	0.093	0.016	0.159	0.586	0.558
Knowledge about COVID-19	-0.369	-0.292	0.178	2.074	0.039
Self-defense	0.113	0.101	0.115	0.984	0.325
Assessment of COVID-19	0.081	0.093	0.106	0.765	0.445
General health status	0.038	-0.023	0.151	0.255	0.799
Attitude	0.533	0.398	0.376	1.417	0.157

Original Sample (O)= coefficient path

Table 3

Factors that influence COVID-19 prevention behaviour in the chronic diseases group

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STD EV)	P Value s
Access to health services	-0.030	0.015	0.105	0.284	0.777
Demography	0.106	0.057	0.122	0.875	0.382
Social support	-0.304	-0.295	0.130	2.350	0.019
Self-ability in preventing COVID-19	-0.425	-0.390	0.158	2.687	0.007
Trust in the Nursing Profession	0.196	0.156	0.108	1.815	0.070
Knowledge about COVID-19	0.070	0.017	0.130	0.539	0.590
Self-defense	-0.030	-0.016	0.073	0.415	0.679
Contagion risk assessment	-0.103	-0.082	0.086	1.195	0.233
Assessment of COVID-19	0.111	0.080	0.128	0.866	0.387
General health status	-0.114	-0.123	0.092	1.239	0.216
Attitude	-0.222	-0.232	0.133	1.666	0.096

Original Sample (O)= coefficient path

DISCUSSION

Based on the test results, the factors that influence the behaviour of preventing COVID-19 in the chronic disease group and the elderly are knowledge, social support, and attitudes towards COVID-19. Knowledge is knowledge which is the result of knowing and this occurs after people sense a certain object [8]. Knowledge will affect someone to change the person's behaviour or not. The results of the study show that knowledge is a factor that influences COVID-19 prevention behaviour. Respondents who have sufficient knowledge will influence the behaviour of respondents to take preventive measures against COVID-19, and vice versa. The results of this study are supported by Sari & Budiono's research which states that there is a significant relationship between the level of knowledge, attitudes, support from colleagues, availability of facilities/facilities, binding regulations and sources of information with COVID-19 transmission prevention behaviour [9]. Research by Bronfman et al and kim & kim, the results of the research are that one of the factors that influence the behaviour of preventing COVID-19 is the knowledge of the respondents [10], [11].

During the COVID-19 pandemic, social support and family support are very important. Family support such as providing vitamins, fruits, vegetables to increase body immunity, providing masks, hand sanitizer, as well as providing soap and hand washing facilities and social support are also needed in emergency conditions and in certain situations. The older adults and people with comorbidities are a group that is vulnerable to

contracting COVID-19 so that families play a role in conveying information, reminding, and motivating to always implement COVID-19 prevention behaviour such as using masks, washing hands with soap, maintaining distance, and staying in home if you don't have an urgent need. Good social support can encourage someone to comply with the COVID-19 prevention protocol, as research conducted by Paykani et al found that social support has a positive influence on someone in order to stay at home during the COVID-19 pandemic [12].

In preventing disease, attitude is one of the factors that influence a person in preventing the spread of a disease. Attitudes are influenced by knowledge, good knowledge becomes the basis for good attitudes in preventing COVID-19 behaviour, in other words, thinking knowledge plays an important role in attitude formation. The results of the study show that there is an influence of attitude on COVID-19 prevention behaviour. This result is supported by the research of Bronman et al. that one of the factors that influence the behaviour of preventing COVID-19 is attitude [10].

While the factor that has no effect is access to health services, demography, self-ability in preventing covid-19, trust in the nursing profession, self-defense, contagion risk assessment, assessment of COVID-19, and general health status. Access to health services, trust in the nursing profession and general health status is very important during the COVID-19 pandemic to prevent the severity of illness and the resulting death. The hoax of COVID-19 was fast spread although the citizen has lot trust in health advice from

nurses, it was found in most Southeast Asian countries have high levels of trust in nurses. It is the key to fighting COVID-19, but the substantial populations of Vietnam, Laos, Cambodia and the Philippines who trust their families and friends most for medical advice may be most susceptible to false or misleading information, which may undermine efforts to control COVID-19 [13], [14].

The demographics of the respondents have no effect on COVID-19 prevention behaviour. Most respondents are in the pre-older adult and older adult category, which is, they will experience a decrease in threat and fear assessment. As the results of the study showed that younger people experienced higher threat and fear assessments, but as they got old <https://www.who.int/europe/news/item/01-04-2022-community-nurses-in-rural-romania-go-the-extra-mile-for-covid-19-vaccinationer> they experienced less threat and fear assessments [15], [16]. As for belief in various conspiracy theories, some research conducted during the COVID-19 pandemic found no difference between age, gender, and education level in relation to COVID-19 conspiracy beliefs [15], [17].

The respondent's self-ability and self-defense, the results of the study found, were not related to COVID-19 prevention behaviour. This can be related to the respondent's place of residence in the rural area. Differences in the area or location of the community greatly affect prevention behaviour, according to previous research which states that differences in the area or location of residence are related to the application of protective behaviour [18] And

supported by research results, which show that rural residents are significantly less likely to wear masks in public, clean their homes or workplaces with disinfectant, avoid eating in restaurants or bars, or work from home. These findings, except for eating out, are strong to include measures that take into account political ideology, demographic factors, and COVID-19 experiences [19].

The risk assessment of transmission and assessment of COVID-19 from the results of the study was found to have no effect on the behaviour of preventing transmission of COVID-19, this is not only supported by the education level of the respondent, the information obtained has an unreliable source. This result is supported by research which found that perceived susceptibility and perceived severity were not significant in the regression model [20] However, there are research results that are not in line with the results of this study, such as the results of the study which showed that there was a positive relationship between perceived severity and prevention behaviour and a higher perception of risk was then associated with a higher frequency/probability to practice preventive behaviour [21], [22].

CONCLUSION

The result of this research is that the influencing factors were knowledge, while in the chronic disease group was social support and attitude towards COVID-19 and the factor that has no effect is access to health services, demography, self-ability in preventing COVID-19, trust in the nursing profession, self-defense, contagion risk assessment,

assessment of COVID-19, and general health status. From these results, it is hoped that it can improve preventive behaviour against COVID-19 by understanding what factors are weakening or factors that can increase the risk of COVID-19 transmission in the elderly and people with chronic diseases, and can be a policy reference in implementing the protocol of COVID-19 for the Village Government.

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