Determinant of health protocol

by Sofia Rhosma

Submission date: 01-Jan-2022 05:37PM (UTC+0700)
Submission ID: 1736738644
File name: Implementation_Among_Elderly_with_Chronic_Disease_in_Jember.doc (203K)
Word count: 3301
Character count: 17659

Nurse and Holistic Care,
Vol. 1, No 3, Desember 2021
www.journal2.unusa.ac.id/index.php/NHC

Original Articles

Determinant of Health Protocol Implementation Among Elderly with Chronic Disease in Jember

Sofia Rhosma Dewi[1*]

[1]Nursing Programme, Faculty of Health Science, Universitas Muhammadiyah Jember, Jember 68121, East Java Province, Indonesia

Article history:
Received: November, 08, 2021
Accepted: December, 21, 2021

Correspondence:
Sofia Rhosma Dewi
Nursing Programme, Faculty of Health Science, Universitas Muhammadiyah Jember, Jember 68121, East Java Province, Indonesia *Email:* sofiarhosma84@gmail.com

Keywords: *elderly; health protocols; chronic disease; pandemi*

Abstract

Background : Elderly is one of the vulnerable groups against COVID 19 infection. The mortality rate from COVID 19 is the highest in the elderly. The chronic disease is worsening the outcome.

Objective : This study aimed to find the determinant of the implementation of health protocols among the elderly with chronic disease.

Methods : This study was a correlational study conducted with a cross-sectional approach. A total of 437 elderly were selected through consecutive sampling techniques. The respondents were asked to fill the KAP questionnaire through a google form. The data were analyzed using binary logistic regression and multivariate logistic regression techniques using SPSS.

Result : The results showed that educational level (p-value 0,088); living arrangement (p-value 0,035); knowledge (p-value 0,026); occupation (p-value 0, 042) and the implementation of self-care management (p-value 0,047) were correlated with the implementation of health protocols among the elderly with chronic disease. Knowledge became the main determinant of the health protocol implementation among the elderly with OR 8,456 95%CI (3,495 – 20,455).

Conclusion : It can be concluded that the elderly with adequate knowledge has the potential to be 8,4 times more likely to implement the health protocols properly. Health education about the appropriate implementation of health protocol needs to be carried out using a plain language that is easily accepted by the elderly

INTRODUCTION

Since March 2020, COVID 19 has entered Indonesia and rapidly spread to all edge of the region. The COVID 19 spread not only in Indonesia but almost all over the world. Until July 2021 WHO recorded; 185.319,261 patients with confirmed COVID 19 with the mortality is at 3.954.324 globally. In Southeast Asia WHO recorded 35.090.172 cases of COVID 19 with the number of deaths reaching 439,425. Meanwhile in Indonesia, the total number of positive cases of COVID 19 reached 2,23 million and the mortality rate was 59.534 (Olsen *et al*., 2021).

The addition of daily cases nationally as of July 3rd 2021 reach 25.830 cases; with the recovered patients reaching 11.578 and 539 patients dying today. This number puts Indonesia in fifth place with the highest number of positive COVID 19 cases after Brazil, India, Columbia, and England. Of all provinces in Indonesia, East Java is the highest number of positive cases with 165.013 cases; 5.673 patients treated; 147.245 recovered and 12.095 are dead (Morfi, 2020).

The COVID 19 outbreak has become a global health problem immediately. The COVID 19 virus can attack anyone. Parwanto and Guyansyah (2020) stated that data of positive cases in October 2020 has reached 42 thousand and the elderly become the biggest proportion of impacted group with the percentage of 43%. Komazawa *et al (*2021) stated the case fatality rate in the elderly reached 13,9% which means that the death in elderly due to COVID 19 is enormous.

In 2021, along with the increasing number of variants of COVID 19, daily data reported by the Committee for The Handling of COVID and the National Economic Recovery stated that as of July 3rd, 2021 the elderly with confirmed COVID 19 was 11,3% with the percentage of deaths reaching 50%. This shows that the elderly is the vulnerable group during this pandemic situation. Prior study on the clinical profile of elderly patients affected by COVID 19 found that the majority of confirmed elderly were male (66%), had no history of close contact with COVID 19 patients (86%), and had a history of chronic disease such as diabetes mellitus and hypertension (Azwar *et al*., 2020). Referring to the data in July 2021, data from the Committee for The Handling of COVID and the National Economic Recovery show the highest comorbidities were hypertension at 50.3%, diabetes mellitus at 36,7%, and heart disease at 17,5%.

To date, no medicine has been declared effective. Efforts to suppress the number of daily cases were carried out by the government through the strict health protocol implementation, restriction on mobility, and growing herd immunity through vaccination which is a challenging effort. Economic factor is one of the factors that hinder social restriction in Indonesia. Another important factor is the community's disobedience to the government instruction and the inadequate health literacy of the Indonesians. This is an unfavorable condition for vulnerable groups including the elderly.

The elderly health literacy regarding to COVID 19 is insufficient (Bahtiar *et al*., 2021). On the other hand, chronic diseases experienced by the elderly require lifestyle changes as one of the disease managements. Motivating themselves to lead a healthy lifestyle is something that cannot be

said to be easy for the elderly and currently elderly are required to be able to apply health protocols to prevent the transmission of COVID 19. The insufficient elderly health literacy about COVID 19 has been attempted to be overcome through various forms of health education through a poster, social media and counseling by religious leaders. But still many elders do not apply the health protocols. Based on that phenomenon the author is interested in examining the determinants of implementing health protocols in the elderly with chronic disease.

METHODS

Study Design

This study is a correlational study conducted with the cross-sectional approach.

Settings

This research was conducted in July 2021 at Jember, East Java Province, Indonesia.

Research Subject

The population of this study is all elderly in Jember. The sampling technique used is consecutive sampling involves 437 elderly.

Instruments

The questionnaire is developed from the KAP questionnaire made by Akalu, Ayelign, and Molla (2020) and adapted to the characteristics of the people in East Java. This questionnaire has been tested for validity and reliability. The results of the product-moment correlation test showing an r value of 0,83 while the reliability test with Chronbach's Alpha shows a rvalue of 0,87. It can be concluded that the instrument is valid and reliable.

Data Collection

The elderly was asked to fill in the questionnaire about the application of health protocols in the pandemic era. The collected data was then analyzed using binary logistic regression and multivariate logistic regression to find the determinant of implementation of health protocols among the elderly with chronic disease.

Data Analysis

The collected data was then analyzed using binary logistic regression and multivariate logistic regression to find the determinant of implementation of health protocols among the elderly with chronic disease.

RESULTS

The data collected through google form consist of several data, namely general data and special data according to the variables studied. General data of respondents includes respondents' characteristics such as age, gender, educational level, occupation, residence, income, living arrangements, marital status, income, the history of chronic illness, their knowledge about Covid-19

and the chronic disease they suffered, self-care management and the implementation of health protocols. All of these data are presented in table 1.

Table 1. Respondent's Characteristics (July 2021)

Variable	Characteristic	Frequency	%
Age	60 – 69 years old	260	59,5
	70 – 79 years old	102	23,3
	80 – 89 years old	69	15,8
	90 – 99 years old	6	1,4
Sex	Male	203	46,5
	Female	234	53,5
Educational status	Unable to read and write	69	15,8
	Elementary	214	49.0
	Middle	89	20,4
	Higher	65	14,9
Occupation	Retired	60	13,7
	Farmer	174	39,8
	Merchant	89	20,4
	Housewife	114	26,1
Marriage	Married	282	64,5
	Death divorce	115	26,3
	Divorced	40	9,2
Residence	Urban	55	12,6
	Rural	382	87,4
Income	Less than needed	267	61,1
	As needed	131	30,0
	More than needed	39	8,9
Living arrangement	Spouse	110	25,2
	Spouse and children	172	39,4
	Children only	135	30,9
	Alone	20	4,6
Type of chronic disease	Hypertension	246	56,7
	Diabetes mellitus	83	19,0
	Coronary heart disease	27	6,2
	Gout	81	18,5
Knowledge about the disease	Adequate	130	29,7
	Inadequate	307	70,3
Self-care management	Implemented	24	5.5
	Not implemented	413	94,5
Health protocol implementation	Properly	95	21,7
	Improperly	342	78,3

Table 1 shows that 59,5% of respondents are 60 – 69 years old; 53,5% are women, 49% were graduated from elementary school; 39,8% are working as a farmer; 64,5% are married; 87,4% are living in the rural area; 61.1% are having minimal income; 39,4% are living in an extended family; 56,7% are having hypertension; 70,3% are having inadequate knowledge about the chronic disease; 94,5% re not implementing self-care management to controlling the disease; and 79,3% respondents are implementing health protocol improperly.

The health protocol is a form of adaptation to new habits that must be implemented by everyone during this pandemic. A new form of habit will not necessarily be applied because of the individual's belief. And so does the elderly. More information about health protocol applied by the elderly with chronic disease is shown in table 2.

Table 2. The Health Protocol Implementation Among Elderly with Chronic Disease

Health Protocol	Implementation	
	Yes	No
Frequently go outside/traveled for the last 30 days	161 (37,3%)	271(67,2%)
Participate in social activities that have the potential to cause crowds for the last 30 days	163 (37,5%)	272 (62,5%)
Wearing a mask when going outside/travelling for the last 30 days	315 (72,4%)	120 (27,6%)
Touching the outside part of the mask when removing it for the last 30 days	257 (59,6%)	174 (40,4%)
Wash and reuse the mask that has been used for the last 30 days	315 (72,4%)	120 (27,6%)
Wash the hands using soap in a water flow for the last 30 days	348 (79,8%)	88 (20,2%)
Frequently touching the eye, nose and lips before washing the hands for the last 30 days	268 (61,5%)	168 (38,5%)
Frequently clean up the surface of the furniture for the last 30 days	328 (75,6%)	106 (24,4%)
Keep the physical distancing including with the relatives for the last 30 days	156 (35,9%)	279 (64,1%)
Handshaking with others for the last 30 days	363 (85,2%)	87 (14,8%)
Frequently spend the mealtime with others for the last 30 days	272 (62,4%)	164 (37,6%)

Table 2 shows that from all of the listed activities in the questionnaire about health protocol the respondents obey the direction to stay at home and not come to the crowd. But the data show us that most respondents are not wearing the mask properly and keep the physical distancing including with their relatives.

Accuracy in implementing health protocols is influenced by the understanding of action and belief in the virus existences. Several things related to the accuracy of implementing health protocols for the elderly are shown in table 3 below.

Table 3. Binary Logistic Regression Analysis about Health Protocol Implementation Among Elderly with The Chronic Disease

Variable	Characteristics	Health Protocol		P-value
		Proper	Improperly	
Age	60 – 69 years old	95	165	0,993
	70 – 79 years old	0	102	
	80 – 89 years old	0	69	
	90 – 99 years old	0	6	
Sex	Male	95	139	0,994
	Female	0	2013	
Educational status	Unable to read and write	16	53	0,000
	Elementary	79	135	
	Middle	0	89	
	Higher	0	65	
Occupation	Retired	16	44	0,000
	Farmer	79	95	
	Merchant	0	89	
	Housewife	0	114	
Marriage	Married	95	187	0,944
	Death divorce	0	115	
	Divorced	0	40	
Residence	Urban	0	55	0,977
	Rural	95	287	
Income	Less than needed	95	172	0,944
	As needed	0	131	
	More than needed	0	39	
Living arrangement	Spouse	16	94	0,000
	Spouse and children	79	93	
	Children only	0	135	
	Alone	0	20	
Type of chronic disease	Hypertension	83	163	0,084
	Diabetes mellitus	12	71	
	Coronary heart disease	0	27	
	Gout	0	81	
Knowledge of the disease	Adequate	27	103	0,000
	Inadequate	68	239	
Self-care management	Implemented	16	8	0,000
	Not implemented	79	334	

According to table 3, some independent variables have p-value > 0,025 which are age, sex, marriage, residence, and the type of chronic disease they have. The other independent variables such as educational status, occupation, living arrangement, knowledge, and self-care management have p-value < 0,025 and these variables were analyzed using multiple logistic regression to find the determinant of health protocol implementation. The results are shown in Table 4.

Table 4. Multiple Logistic Regression Analysis about Health Protocol Implementation Among Elderly with Chronic Disease

Variable	Significant	AOR (95%CI)
Education	0,088	2,624 (1,896 – 3,631)
Living arrangement	0,035	6,068 (3,427 – 10,745)
Knowledge	0,026	8,456 (3,495 - 20,455)
Occupation	0,042	3,258 (2,371 – 4,467)
Self care management	0,047	1, 817 (1,360 – 2,428)

Based on the data in table 4, we can see that knowledge about the disease and COVID 19 is the determinant of health protocol implementation in the elderly with chronic disease with OR 8,456. It means that elderly with adequate knowledge has the potential to be 8,4 times more likely to implement the health protocols properly.

DISCUSSION

Statistical analysis using multiple logistic regression show that knowledge about the chronic disease and COVID 19 as a determinant of health protocol implementation in the elderly with chronic disease. The elderly with sufficient knowledge is potential to be 8,4 times more likely to implement the health protocols properly. Knowledge is a determinant of behavior. This result is in line with the study of Akalu, Ayelign, and Molla (2020) which stated that insufficient knowledge will lead to the poor behavior of COVID 19 prevention. Table 1 shows that 70,3% of respondents have insufficient knowledge about chronic disease and also about the correlation between the disease and COVID 19. It is supported by the study conducted by Bahtiar *et al*., (2021) which stated that the Indonesian elderly are having poor health literacy about COVID 19.

This study found that all of the other determinants of health protocol implementation of elderly with chronic disease are connected. Knowledge is affected mostly by educational status. Most Indonesian elderly are graduated from the elementary educational level or have never attended school. The low educational status will impact on information resistance. This is what happens to the elderly in East Java. The ability to consider limited information paired with a gradual decline in cognitive function is demanding challenge for health workers to make the elderly understand both information regarding the chronic illness they suffered and COVID 19.

The data in table 2 states that the elderly participation in self-care management is poor. Niriayo *et al*., (2018) state that hypertensive elderly self-care management is strongly influenced by motivation and the health and illness perception. The elderly is considering themselves healthy as long as can carry out the activities and do not need to show the sick role. However, the elderly who are accustomed to self-care management are also adapt to the health protocols implemented for the prevention of COVID 19.

The etiology of COVID 19 is a small and invisible virus. And it causes not all of the elderly to understand the disease. Another factor that influences behavior is culture and norms. The culture of people in Java and Madura believes in plague or they called it "pangebluk" but it is difficult to believe that COVID 19 exists.

Living arrangement and occupation has an impact on the health protocol application by the elderly. Srivastava *et al*.(2021) stated that having family members' support reduces stress on older adults and increase strength and a positive mental attitude to handle their daily lives. The family plays the role of a social institution for the care of the elderly and it is expected to continue the role of the caregiver as the main source of support security in old age (By, Das and Biswal, 2012). A caregiver family has a big part in providing health information to elderly. The interviews results conducted by the author show that the elderly gain information about COVID 19 from their family member. Respondents know that this disease is an infectious disease with a high mortality rate at this time. On the other hand, respondents are not knowing that the chronic disease they suffered put them at risk of getting infected and having a poor outcome. Respondents understand that they are must perform the health protocols to prevent the transmission. But table 2 shows that the respondents did not implement the health protocol properly. From the health protocol action that has been socialized, the point of wearing and handling a mask, keeping social distance, and avoiding mealtime together has still become a problem. The elderly know that they must wear a mask when leaving the house, but they do not understand how to put in and take off a mask and they do not understand that the masks are not made from cloth that can be washed and reused. Many of them are used to wash the mask that has been used as long as it has not been damaged.

Another concern is about the elderly assumption that the relatives are not people to be suspected of, in another word they don't need to keep their distance, don't need to wear masks, and keep shaking hands when visiting or being visited. Since it reflects respect for the relatives. In addition, many elder assume that the mask can be removed when they talking because it makes their voices not heard clearly.

This is certainly a concern for the health workers. The elderly needs to communicate with the people around them. Decreased organ function makes the communication process disrupted. The health protocols that must be applied will further disrupt their communication. More and more elderly violated the health protocol so that they can communicate well. The pandemic condition makes the public health service stop the service for a while to minimize the transmission. The closure of public health services is making an obstacle in promoting the elderly's health. But it can't be abandoned. The family becomes the main caregiver for the elderly. The family needs to optimize their roles as the source of health information for the elderly. Health workers need to provide health education that uses plain language that can be understood and accepted easily. Introducing the elderly to technology such as the use of smartphones can also be done so that the elderly can still get connected with others without having to violate health protocols. Families and the elderly have to get used to telemedicine

since it currently plays an important role in health services, especially in the treatment of non-communicable diseases (Mustaffa *et al*., 2020)

Limitation

This study only determinant knowledge of the health protocol implementation among the elderly. Further research is needed to analyse health protocol implementation to chronic disease.

Conclusion

Knowledge became the main determinant of the health protocol implementation among the elderly with OR 8,456 95% CI (3,495 – 20,455). It can be concluded that the elderly with adequate knowledge has the potential to be 8,4 times more likely to implement the health protocols properly. Health education about the proper implementation of health protocol needs to be performed using plain language that is easily accepted by the elderly.

AUTHOR CONTRIBUTION

Sofia Rhosma Dewi : Conceptualization, methodology, writing-review and editing, writing-original draft supervision, visualization, project administration, software, validation, formal analysis, investigation, resources, data duration and funding acquisition.

ORCHID

Sofia Rhosma Dewi : https://orcid.org/0000-0002-6806-783X

CONFLICT OF INTEREST

The authors have consented and no conflicting interests.

ACKNOWLEDGEMENT

Thank you to all respondents and to those who have helped in completing this research until the compilation of this manuscript done

REFERENCE

Akalu, Y., Ayelign, B. and Molla, M. D. (2020) 'Knowledge, attitude and practice towards covid-19 among chronic disease patients at addis zemen hospital, Northwest Ethiopia', *Infection and Drug Resistance*, 13, pp. 1949–1960. doi: 10.2147/IDR.S258736.

Azwar, M. K. *et al*. (2020) 'Clinical Profile of Elderly Patients with COVID-19 hospitalised in Indonesia's National General Hospital', *Acta medica Indonesiana*, 52(3), pp. 199–205.

Bahtiar, B. *et al*. (2021) 'Assessing Health Literacy of Elderly with Chronic Diseases during the COVID-19 Pandemic in Makassar City , Sulawesi Selatan , Indonesia', *Dunia Keperawatan: Jurnal Keperawatan dan Kesehatan*, 9(1), pp. 113–120. doi: 10.20527/dk.v9i1.9325.

By, S., Das, S. and Biswal, R. K. (2012) 'THE ROLE OF FAMILY IN HEALTH AND HEALTHCARE UTILIZATION AMONG ELDERLY Under the Guidance of', (May).

Komazawa, O. *et al*. (2021) *Older People and COVID-19 in Indonesia*.

Morfi, C. W. (2020) 'Kajian Terkini CoronaVirus Disease 2019 (COVID-19)', *Jurnal Ilmu Kesehatan Indonesia*, 1(1), pp. 1–8. doi: 10.25077/jikesi.v1i1.13.

Mustaffa, N. *et al*. (2020) 'COVID-19 in the elderly:A Malaysian perspective', *Journal of Global Health*, 10(2), pp. 1–4. doi: 10.7189/jogh.10.020370.

Niriayo, Y. L. *et al*. (2018) 'Practice and predictors of self-care behaviors among ambulatory patients with hypertension in Ethiopia', *PLoS ONE*, 14(6), pp. 1–16. doi: 10.1371/journal.pone.0218947.

Olsen, S. J. *et al*. (2021) 'Changes in influenza and other respiratory virus activity during the COVID-19 pandemic—United States, 2020–2021', *American Journal of Transplantation*, 21(10), pp. 3481–3486. doi: 10.1111/ajt.16049.

Parwanto, E. and Guyansyah, A. (2020) 'Clinics in Mother and Child Health Hello Indonesia , Be Careful with COVID-19 in the Elderly with Hypertension', 17(1000369), pp. 2–3.

Srivastava, S. *et al*. (2021) 'Feeling about living arrangements and associated health outcomes among older adults in India : a cross-sectional study', *BMC Public Health*, 21(1322), pp. 1–14.

Determinant of health protocol

ORIGINALITY REPORT

14%	12%	9%	8%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	journal2.unusa.ac.id Internet Source	2%
2	Submitted to Universitas Nahdlatul Ulama Surabaya Student Paper	2%
3	Maria de Fátima Carvalho Alves, Maria da Luz Lima Mendonça, Janice de Jesus Xavier Soares, Silvânia Leal et al. "Knowledge, attitudes and practices towards COVID-19: A cross-sectional study in the resident cape-verdean population", Social Sciences & Humanities Open, 2021 Publication	1%
4	www.ncbi.nlm.nih.gov Internet Source	1%
5	ppjp.ulm.ac.id Internet Source	1%
6	jurnal.syedzasaintika.ac.id Internet Source	1%
7	Submitted to Clarkson College	

	Student Paper	1 %
8	Submitted to The University of Memphis Student Paper	1 %
9	www.nature.com Internet Source	1 %
10	repository.unhas.ac.id Internet Source	1 %
11	Sathyavathi S, Anagha A Joshi, Gayathri B R, Rukmini Tanjore, Krishnamurthy B N. "Mean platelet volume: Has it the capacity to predict the concentration of Platelet counts in Dengue: A study", Indian Journal of Pathology and Oncology, 2020 Publication	<1 %
12	bmcpublichealth.biomedcentral.com Internet Source	<1 %
13	Submitted to Tata Institute of Social Sciences Student Paper	<1 %
14	www.actamedindones.org Internet Source	<1 %
15	Submitted to Wawasan Open University Student Paper	<1 %
16	Yomilan Geneti, Kalkidan Wondwossen, Mekonen Adimasu, Dereje Deressa et al.	<1 %

"Adherence to Diabetes Self-Management and the Associated Factors among Type 1 Diabetic Adolescents Attending Outpatient Diabetic Clinic at Public Hospitals in Addis Ababa, Ethiopia, 2021", Research Square Platform LLC, 2021
Publication

---

17 link.springer.com
Internet Source
<1%

---

18 A S Gryaznov, V A Plotnikov, S V Makarov. "Registration and processing of experimental data in research of martensitic transformations in TiNi alloys by acoustic emission method", Journal of Physics: Conference Series, 2020
Publication
<1%

---

19 Estriana Murni Setiawati. "Public Knowledge, Attitude, and Practice toward COVID-19 Prevention: a Literature Review", International Journal of Health Science and Technology, 2021
Publication
<1%

---

20 A H Ahmad, M Arsyad, Y Musa, D Rukmana, N Kadir, W Meilvidiri. "The impact of human resources on partnership of orange farmers and muchacha-en, Ltd : evidence from Japan", IOP Conference Series: Earth and Environmental Science, 2019
<1%

	Publication	
21	Pablo Antonio Archila, Giovanna Danies, Jorge Molina, Anne-Marie Truscott de Mejía, Silvia Restrepo. "Towards Covid-19 Literacy", Science & Education, 2021 Publication	<1 %
22	Submitted to Universitas Indonesia Student Paper	<1 %
23	Vitalakumar D, Ankita Sharma, Anoop Kumar, S. J. S. Flora. "Neurological Manifestations in COVID-19 Patients: A Meta-Analysis", ACS Chemical Neuroscience, 2021 Publication	<1 %
24	ijcrar.com Internet Source	<1 %

Exclude quotes	Off	Exclude matches	Off
Exclude bibliography	Off		