



KNOWLEDGE AND PRACTICE TOWARDS COVID-19 AMONG THE VIETNAMESE ELDERLY: A CROSS-SECTIONAL ONLINE SURVEY

Nguyen Thi Anh Van	Hanoi University of Public Health, Hanoi, Vietnam
Nguyen Hang Nguyet Van	Hanoi University of Public Health, Hanoi, Vietnam
Ha Van Nhu	Hanoi University of Public Health, Hanoi, Vietnam
Nguyen Thu Huong*	Hanoi University of Public Health, Hanoi, Vietnam *Corresponding Author
Nguyen Trung Tuyen	Hanoi Medical University, Vietnam

ABSTRACT

Objectives: Here, we evaluated the COVID-19 questionnaire shortly after containment measures were taken and during the rapid outbreak of the epidemic shortly after the directive 16/CT-TTg was issued on 31st March 2020. The study purposed to define the knowledge and practice of COVID-19 epidemic control and related factors among the elderly in Vietnam. **Method:** The online-based cross-sectional study was conducted from April 3 to April 9, 2020, with the participation of 260 elderly people aged 60 and over in Vietnam, recruited via social media. **Results:** Of the 260 survey participants, 56.2% were female, the almost were Kinh ethnic group (89.6%), aged 60-69 years (58.2%), having a high school degree (53.15%), living in urban areas (53.8%). More than half of them are retired staff and have a high history of chronic illness. The survey reports that more than 80% of participants have a best knowledge and more regular practice on COVID-19 prevention. The majority (99.2%) of the participants regularly monitored in the television. Almost everyone (99.2%) understands respiratory infections, (95.0%) participants wore a face mask in crowded places and 74.6% keep your distance and limit to crowded places, 99.6% agreed to not travelling, and 90.8% implemented washing hands with soap and or an alcohol -based disinfectant solution. In multiple logistic regression analyses, COVID-19 more accurate knowledge was associated with age group, education level and occupation. Sociological factors such as age, higher education, employment, and more frequent preventive practice were factors with more positive attitudes. **Conclusions:** To improve knowledge and practice of populations in general is critical during the rapidly increasing period of a pandemic outbreak such as COVID-19. With the knowledge and responsibility of the elderly, they will be an active channel to participate in health communication and education for other family members effectively combined with consideration of factors that adjust knowledge, practice and attitude should not be overlooked.

KEYWORDS : Knowledge, practice, COVID-19, Vietnamese, elderly

INTRODUCTION

COVID-19 disease was first reported during the outbreak of severe acute respiratory syndrome in Wuhan, China, in December 2019 [1]. On the 11th of March 2020, the World Health Organization (WHO) declared the outbreak of the latest coronavirus was a pandemic, and circulated strategic preparedness and response plan for COVID-19 [2]. The COVID-19 pandemic poses a significant danger to global health and is a major concern for all nations. The disease had spread to over 200 countries with the drastic increase in the number of COVID-19 cases and deaths, and the mortality rate of around 5.7% [3]. Therefore, governments should consider choosing to implement timely measures to prevent widespread spread in the community [4]. Till the moment, the vaccine against SARS-CoV-2 virus is not available yet. Strong control measures are the primary intervention intended to reduce the spread of the virus in both health care settings and the community [5]. Public knowledge of COVID-19 prevention plays an important role in reducing the spreading and effectively controlling COVID-19, especially in low-middle-income countries where health systems are ineffective results in pandemic response.

Vietnam was thought to be highly vulnerable, as it had a 1,400 km border with China, busy cross-border travel and trade, with a large population of over 97 million people, and a low-middle-income economy. High numbers and densities of the population increase the risk of transmission, particularly among older adults and those with chronic illnesses [6]. And although many countries have an increased number of cases, Vietnam has so far had much lower confirmed cases than neighboring countries such as the Philippines, Singapore,

Malaysia and Thailand, and there have been no deaths reported deaths have been reported [7]. Confirmation of state information to the second half of November 2020, Vietnam has passed 70 days without occurrence of new cases in the community local efforts were exerted to prevent the spreading of the virus. These government efforts are related to political activities, along with people's attitudes and behaviors, which rely on the knowledge of the general public about the disease. A quick online survey is a promising way of assessing and tracking knowledge and practice in the condition of rapidly evolving outbreaks of infectious disease. Such assessments are crucial because ensuring that the general public is well educated about COVID-19 pandemic, which may minimize needless fear as well as reduce the spread of disease and thereby protect themselves, family, and the community [8]. Older adults are among the most vulnerable individuals, especially when being exposed to a threat and of lacking the resources to deal with a threat such as COVID-19. Therefore, we conducted a cross-sectional online survey to assess the knowledge and practice of the Vietnamese elderly towards the COVID-19 disease. The results of this study will provide some initial information which can be used to develop and implement effective communication solutions to improve the knowledge and practice of COVID-19 prevention for the elderly group.

METHODS

Study design and population

This cross-sectional online survey was conducted between 3 April and 9 April 2020, among the elderly people (aged from 60 years old and above) who live in Vietnam and have been able to understand and answer questions. The survey was

conducted through a link that was shared both on social networking sites and via through personal interviews. The latter was limited to reducing the disease transmission.

Measurements and instrument

A structured questionnaire was developed with the following parts of information:

Socio-demographic information: age, gender, education level, occupation, and place of current residence, chronic diseases and information sources about COVID-19.

Knowledge and practice of COVID-19 information: A COVID-19 knowledge and practice questionnaire were developed in accordance with guidelines for clinical and community management of COVID-19 by the Vietnam Ministry of Health (MOH, 2020)). The questionnaire had 20 questions including 11 knowledge items and 9 items regarding the prevention of COVID-19. These questions were answered with an additional "I don't know" option on a true/false basis. One point was assigned to a correct answer and the zero point was assigned to an incorrect/unknown answers. The overall knowledge score ranged from 0 to 18 and the practice scores ranged from 0 to 9, with a higher score illustrating a better knowledge and practice of COVID-19.

Data collection

An online survey portal was created, and participants were invited to fill in and submit the questionnaire. The initiation process participants was conducted through convenient sampling. Participants were reached via a network of researchers and students from Hanoi University of Public Health.

The questionnaire link was sent to all researchers and students of Hanoi University of Public Health via their email, Zalo, and Facebook accounts, then the research participants were identified for interview. Data collection was carried out in one of the following two ways: (i) investigators send questionnaires links to older people to directly answer if the older can answer directly online or (ii) in case the elderly do not can answer directly, investigators interviewed and complete questionnaires online.

Data analysis and statistical methods

Data were analyzed using STATA software, version 14.0 (Stata Corp. LP, College Station, TX, USA). Descriptive statistical methods were used to summarize data on socio-demographic characteristics and responses to questions of knowledge and practice towards COVID-19. Data were summarized as frequencies (n) and percentages (%) for categorical variables. Independent T-test and ANOVA tests were used to determine the relationship between mean knowledge/practice score and socio-demographic variables. A value of $p < 0.05$ was considered statistically significant.

Ethical considerations

The ethical approval of our study was obtained from the Institutional Review Board of Hanoi University of Public Health in Vietnam (Decision No 129/2020/YTCC-HD3). Participants' information was completely confidential and only served for the study purposes. Respondent's anonymity and confidentiality were ensured. The submission of the answered survey was considered as consent to participate in the study.

RESULTS

Descriptive Characteristic Results

A total of 268 person traloi were by address mail, and 260 respondents were included in the final analysis. The participating elderly people of which 56.2% female with and more a half was 60-70 year older group. They were living in the urban areas 56.2% compared with 53.8% rural residents.

Almost all respondents were Kinh ethnic group (89.6%). The majority were retired officials (62.7%), had above high school of education (46.9%), and lived in nuclear families (100%) The information about the situation of COVID 19 is almost received by the instruments from television channels (99.2%), and followed by accessing via family members, government officials, and via the Internet 76.7%, 50%, and 46.6% respectively. Most of them suffer from dangerous chronic diseases such as hypertension (41.2%), diabetes (15.8%), heart disease (9.2%), bronchial asthma and or COPD (3.4%), and liver disease (2.7%) (Table 1).

Correct rate of COVID-19 Knowledge and Practice of the Elderly

The scores of knowledge and practice were high 12.19 ± 2.99 and 7.8 ± 2.34 , respectively, suggesting that the overall correct rates of knowledge and practice were 67.7% and 86.7%, respectively. Elderly understanding of COVID-19 regarding ways of spread, high-risks group, and measures to prevent the spread diseases are presented in Table 2. Almost all 99.2% believe that the disease is transmitted through the respiratory tract. The high-risk groups were answered are in the elderly with 93.5%, followed by those with chronic diseases (74.9%) and medical staffs (52.3%). The three most well-known preventive measures were wearing a mask when going to public places (95%), limiting/not going to crowded places (95%), and washing hands properly with soap or an alcohol-based disinfectant solution (87.7%). Table 3 illustrates the practice of the participants towards the preventive measures to limit the spread of COVID-19 and their responses. Generally speaking, the majority of the participants had a good practice towards different items of the inquired preventive measures including not traveling (99.6%), not going to meetings or hang out where there are more than 10 people (94.2%), wearing masks when going to crowded places (91, 5%) and washing hands regularly with soap or an alcohol-based disinfectant solution (90.8%). Some measures were taken with fewer, including visiting a health facility when having a cough, fever, or shortness of breath (48.1%) and keep a minimum social distance of two meters when in contact with other people (74.6%).

The relation between the demographic characteristics with knowledge score and that the average practice score for COVID-19 prevention of the study group is shown in Table 4 and 5. The knowledge mean scores were significantly related to the level of education ($p < 0.05$) with the above high school education group had the highest score of 12.88 ± 2.37 while the illiterate group having 5.67 ± 2.67 . On the other hand, there were significant differences between knowledge mean scores of different age groups ($p < 0.05$), where significantly lower knowledge mean scores were obtained for participants aged 70 -80 years and those ≥ 80 years (11.87 ± 3.36 and 10.96 ± 3.52 , respectively) compared to the younger age groups (60-69 years). Participants were intellectuals/civil servants/officials who had significantly higher knowledge mean scores compared to those were farmers ($p < 0.05$). No association was found between participants' demographic characteristics and their practice scores for COVID-19. This may be due to research limitations.

DISCUSSION

Main findings

Knowledge about COVID-19 among the elderly

In general, Vietnamese elderly people had good general knowledge about COVID-19, its methods of dissemination and prevention. The result has been proven from multiple studies published about the disease – [911]. The knowledge of the older adults in this study is consistent with the reality of health communication and education programs carried out very early in Vietnam, even before no cases was identified in Vietnam. In Vietnam, communication on COVID-19 epidemic

has been widely conducted with many stakeholders from the Party, the Government, Ministries, Departments, Agencies, and schools from the central to local levels in many mass media. The Vietnam Ministry of Health (MOH) has used various means of communication including official newspapers, government website, MOH website, open TV channels television, mobile messages as well as other mobile applications to convey health messages to community with daily updates. As such, television is the most widely accessible information channel, which is reasonable because almost every family in Vietnam has a TV. The broadcasting of specific new positive cases on national TV, and their related epidemiological details, allowed high-risk groups to be traced all over the country [4]. Compared to the SARS outbreak caused by the SARS-CoV-1 virus, the TV was also considered an important means of communication in several studies [12,13]. Internet has been the most significant sources of information in the evolution of technology, however, in our study 55% of the elderly accessed information via the internet, indicating that the internet is not the main source of information for reaching older persons.

In our participants, the mean knowledge score was significantly lower among older participants, those with lower education levels and farmers. It is understandable because vulnerable groups under the COVID-19 epidemic, such as older adults, especially who were illiterate are more likely to have a poor knowledge, have restricted access to the internet and online health information resources. These findings are close to the results of a Chinese study, in which participants with higher education having better knowledge [11], and also consistent with the study among Egyptians toward the Corona virus disease [9].

The practice of COVID-19 prevention among the elderly

As of February 2020, the accessibility of updated information and clear communication messages on COVID-19 via official and social media have been significant contributors to improving community behaviors towards wearing masks, hand washing, and social distancing. Therefore, participants in our survey had a good practice of COVID-19 prevention including not going to crowded places, wearing masks when going outside, and regularly washing hands with soap or an alcohol-based disinfectant solution. Such strict preventive practices could be primarily attributed to the very strict prevention, and control measures enforced by local governments such as banning public meetings as well as wearing masks when going outside and sanitizing hands as guidelines of the MOH.

It is worth noting that higher COVID-19 practice scores were found to be significantly associated with a higher knowledge score of the COVID-19 epidemic in this study. The result is consistent with the results of a Chinese study [11] and similar to previous studies on SARS in 2003 [12,13]. These findings clearly show the value of enhancing COVID-19 knowledge through health education, which may also result in improvements in the practice of COVID-19 prevention. Obviously, the repeated communication on COVID-19 prevention (wearing masks, hand washing) and promoting social distance (staying at home and keeping distance from other at a minimum of 2m) was helpful in changing people's behavior towards the epidemic [4]. Of note, the success from efforts including political efforts by the governments, along with personal behaviors that rely on the awareness of the general public about the disease. An appropriate combination of the government's command, control, incentives and communication from the government is a key to ensuring compliance by the public with government agenda. Throughout Vietnam, the MOH and the government put a greater emphasis on the central management and leadership [4]. Therefore, it is necessary for public health authorities as

well as the media to understand what the target population knows about COVID-19 to design effective information campaigns and set priorities in information campaigns on COVID-19 for the elderly.

Limitations of the study

There are several limitations to this research. Firstly, the implementation of the survey over the internet allowed only those who could read and have internet access to participate, so the number of older people participating in this research was limited. Thus, our results may not be representative of the elderly in Vietnam. Secondly, the assessment of knowledge and practices towards COVID-19 may be measured inadequate and unstandardized due to the extremely limited time needed to developing the questionnaire.

The study has not yet exploited the mental, living standards and attitudes of the research subjects with the COVID-19 disease situation.

CONCLUSIONS

In general, Vietnamese elderly people have good knowledge and appropriate practices towards COVID-19 during the rapid increase time of the COVID-19 outbreak. The knowledge is primarily gained by television, which has pros and cons. Additionally, the knowledge was lower among older and less educated groups. This may necessitate more effort or using multiple methods to communicate with certain groups. Also, good knowledge is associated with good practices towards COVID-19. It is further suggested to maintain the health education communication efficiency under the combined efforts of the government and all Vietnamese residents. Due to the limitation of this study, more studies with larger sample sizes, which may represent the elderly in Vietnam should be conducted.

ACKNOWLEDGMENTS

The authors appreciate all those who participated in this study voluntarily. Furthermore, the authors acknowledge the contributions and assistance of all researchers and students of Hanoi University of Public Health during data collection periods.

Table 1a: Socio-demographic characteristics of the participants (N=260)

Characteristics		Frequency (n)	Percentage (%)
Living residence	Urban	140	53.8
	Rural	120	46.2
Age group	60 – 69	151	58.2
	70 – 79	84	32.3
	80 +	25	9.5
Gender	Male	114	43.8
	Female	146	56.2
Ethnic	Kinh	233	89.6
	Other	27	10.4
Education level	Illiterate	3	1.2
	Primary school	38	14.6
	Secondary school	45	17.3
	High school	52	20
	Above high school	122	46.9
Occupational	Farmer	66	25.4
	Free labour	31	11.9
	Worker	24	9.2
	Civil servants/Officials	139	53.5
Medical history	Hypertension	107	41.2
	Diabetes	41	15.8
	Heart disease	24	9.2

Bronchial asthma/COPD	9	3.5
Chronic hepatitis/liver failure	7	2.7
Other	113	43.5

Table 1b. The means to access information about COVID-19 disease

Characteristics	Frequency (n)	Percentage (%)	
Accessing information about COVID-19	Television	258	99.2
	Radio	107	41.2
	Newspapers	99	38.1
	Internet	143	55
	Relatives	195	75
	Friends	81	31.2
	Health workers	129	49.6
	Government staffs, residential groups	143	55
	Elderly association	51	19.6

Table 2: Knowledge about COVID-19 among the participants (N=260)

Characteristics (N=260)	Frequency (n)	Percentage (%)
Transmission	Respiratory / cough / sneezing	258 99.2
	Touching an object or surface with virus present	207 79.6
	Air Currents	91 35
	Do not know	2 0.8
High-risk groups	Elderly	243 93.5
	People with chronic diseases	194 74.9
	Health workers	136 52.3
	Children	107 41.2
	Women	29 11.2
Do not know	8 3.1	
Measures to prevent spread of COVID-19	Limiting/not going to crowded places	246 95
	Wearing a mask when going to public places	247 95
	Washing hands properly with soap or an alcohol - based disinfectant solution	228 87.7
	Do not have close contact with infected people	222 85.4
	Keep a minimum distance of 2m when in contact with other people	217 83.5
	Isolate at home/do not leave home	217 83.5
	Do not travel	216 83.1
	Visit a health facility when having a cough, fever or shortness of breath	202 77.7
	Cover nose and mouse when sneezing with your sleeve/tissue	201 77.3

Table 3: Practice about COVID-19 among the participants (N=260)

Characteristics	Frequency (n)	Percentage (%)
Going to a wedding	2	0.8

	No	258	99.2
Going to the funeral	Yes	6	2.3
	No	254	97.7
Going to meetings or hang out where there are more than 10 people	Yes	15	5.8
	No	245	94.2
Travelling	Yes	1	0.4
	No	259	99.6
Wearing a mask when going to public places	Yes	238	91.5
	No	22	8.5
Washing hands regularly with soap or an alcohol -based disinfectant solution	Yes	236	90.8
	No	24	9.2
Cover nose and mouse when sneezing with your sleeve/tissue	Yes	220	84.6
	No	40	15.4
Keep a minimum distance of 2m when in contact with other people	Yes	194	74.6
	No	66	24.5
Visit a health facility when having a cough, fever or shortness of breath	Yes	125	48.1
	No	135	51.9

Table 4: Relation between the demographic characteristics of the participants and their knowledge score about COVID-19 (N=260)

Characteristics (N=260)	n (%)	Average knowledge score (±SD)	t/F	p
Knowledge score of COVID19	260 (100%)	12.19 (2.99)		
Gender	Female (56.2%)	146 (11.97 (3.17))	1.985	0.181*
	Male (43.8%)	114 (12.47 (2.74))		
Place of current residence	Urban (53.8%)	140 (12.2 (2.88))	0.350	0.964*
	Rural (46.2%)	120 (12.18 (3.14))		
Ethnic	Kinh (89.6%)	233 (12.27 (2.89))	4.299	0.218
	Other (10.4%)	27 (11.52 (3.84))		
Age group	60 - 69 (58.1%)	151 (12.58 (2.61))	3.931	0.021**
	70 - 80 (32.4%)	84 (11.87 (3.36))		
	Above 80 (8.5%)	25 (10.96 (3.52))		
Education level	Illiterate (1.2%)	3 (5.67 (2.67))	7.690	0.000**
	Primary school (14.6%)	38 (10.92 (3.79))		
	Secondary school (17.3%)	45 (12.16 (2.40))		
	High school (20%)	52 (11.92 (3.33))		
	Above high school (46.9%)	122 (12.88 (2.37))		
Occupational	Farmer (25.4%)	66 (11.35 (3.59))	3.796	0.011**
	Free labor (11.9%)	31 (11.71 (3.64))		
	Worker (9.2%)	24 (11.92 (3.27))		
	Civil servants/ Officials (53.5%)	139 (12.75 (2.32))		

*T-Test **Test Anova SD: standard deviation

Table 5: Relation between the demographic characteristics of the participants and their practice score about COVID-19 (N=260)

Characteristics (N=176)	n (%)	Average practice score (SD)	t/F	p	
Knowledge score	260 (100%)	7.80 (2.34)	3.85	0.000	
Gender	Female	146 (56.2%)	7.81 (1.35)	0.112	0.973*
	Male	114 (43.8%)	7.80 (1.34)		
Place of current residence	Urban	140 (53.8%)	7.71 (1.27)	0.633	0.246*
	Rural	120 (46.2%)	7.91 (1.42)		
Ethnic	Kinh	233 (89.6%)	7.76 (1.32)	0.073	0.160*
	Others	27 (10.4%)	8.15 (1.49)		
Age group	60 - 69	151 (58.1%)	7.94 (1.27)	2.191	0.114**
	70 - 80	84 (32.4%)	7.56 (1.50)		
	Above 80	25 (8.5%)	7.80 (1.15)		
Education level	Illiterate	3 (1.2%)	8.33 (0.58)	1.618	0.170**
	Primary school	38 (14.6 %)	7.53 (1.67)		
	Secondary school	45 (17.3%)	7.89 (1.33)		
	High school	52 (20%)	7.52 (1.41)		
	Above high school	122 (46.9%)	7.97 (1.34)		
Occupational	Farmer	66 (25.4%)	7.92 (1.43)	0.923	0.430**
	Free labor	31 (11.9%)	7.58 (1.29)		
	Worker	24 (9.2%)	7.50 (1.41)		
	Intellectuals/ Civil servants/ Officials	139 (53.5%)	7.85 (1.30)		

*T-Test **Test Anova SD: standard deviation

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