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Research Article

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Survey of knowledge, attitude, risk perception and practice of the elderly about Covid-19 in Urmia

Ehsan Movahed[1], Monireh Rezaee Moradali[2], MoradAli Zareipour[3*], Zahra Moradi[4], Sahar Karbasi Salmasi[4]

[1]*Department of Public Health, School of Public Health, Jiroft University of Medical Sciences, Jiroft, Iran.*

[2]*Department of Midwifery, Urmia Branch, Islamic Azad University, Urmia, Iran.*

[3]*Assistant Professor, Department of Public Health, School of Health, Khoy University of Medical Sciences, Khoy, Iran.*

[4]*Health System Research Unit, Health Center of Urmia, Urmia University of Medical sciences, Urmia, Iran.*

[*]Corresponding author
MoradAli Zareipour, Assistant Professor, Department of Public Health, School of Health, Khoy University of Medical Sciences, Khoy, Iran.

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Abstract

Background: *The first need for behavioral modification to reduce the prevalence of Covid 19 disease among the elderly is to understand their knowledge and attitudes about Covid 19-related issues. If the goal is to reduce the risk of the disease in the elderly, its important to know what the risks are and how to avoid them.*

Objectives: *The aim of this study was to investigate the knowledge, attitude, risk perception and practice of the elderly about Covid disease in Urmia.*

Methods: *The present study was a cross-sectional study that was performed on 1400 elderly people in Urmia, Iran in 2020 by simple random sampling. The data collection tool in this study was a researcher made questionnaire that included demographic characteristics, knowledge, attitude, risk perception and practice questionnaire. Data were analyzed by SPSS 18 software using ANOVA and logistic regression tests.*

Results: *The mean age of the elderly was 66.6 ± 97.4 years old. 67% of seniors had knowledge, 65% had attitude, 52% had practice and 60% had risk perception of Covid-19. Knowledge about Covid-19 was significantly associated with gender and marital status and having a chronic illness, attitude toward gender and having a chronic illness, risk perception with age and education and having a chronic illness, behavior with age, gender, marital status and having a chronic illness (05/0>p). Also, Results showed that the highest to lowest predictive constructs of masking behavior of the elderly, The most effective factor in predicting masking was risk perception (P<0.0001, wald=17.20) and attitude and knowledge were involved in predicting masking in the next step, respectively (P<0.05)*

Conclusion: *Perception of risk was recognized as the most effective factor in predicting the use of masks, so it is necessary to pay attention to strict rules in communities with low risk perception and careful monitoring of the dissemination of information through virtual channels and networks.*

Keywords: Knowledge; Attitude; Risk Perception; Practice; Elderly; Covid-19.

Background

Prevalence of acute respiratory infections is considered as one of the newest global health risks and challenges [1]. The most recent coronavirus was detected in late 2019 in Wuhan, China; a new coronavirus known as COVID-2019 [2]. It is now very prevalent in most countries of the world,this disease has spread rapidly in Iran and has a high prevalence and affected many people [3]. The elderly are one of the most at risk groups, and according to epidemiologists, age is the most important factor in reducing COVID-19 survival, especially after 65 years [4,5]. One of the strategies of governments around the world is to target the elderly and try to persuade them to follow public health precautions [6].

Studies in the elderly show that, in addition to being at higher risk of developing the disease, they are also more likely to die from the disease [7]. But the reason that why older people with underlying diseases are more prone to the disease is still unknown [8]. The results of a study in China showed that although the elderly over the age of 72 accounted for about 92% of patients with Covid-19, But more than 42% of deaths from Covid-19 were due to them. In the United States, 82% of deaths from Covid-19 have been reported in people over 60 [8,9]. The elderly are more susceptible to the disease than the younger groups. Because underlying diseases such as kidney failure, diabetes, high blood pressure, arthritis, heart disease and COPD are more common in the elderly. Recent research has shown that the high incidence of Covid-19 in the elderly is due to cognitive impairment, immunodeficiency, underlying diseases, malnutrition, multiple drug use, and social problems. For this reason, in developing countries, the number of elderly people with Covid-19 deaths is higher than other age groups [10]. Poor preventive measures in the elderly indicate that they do not understand the importance of the issue and do not see Covid 19 disease as a threat to their health [7]. Given the high mortality rate of older people and the clear goal of governments around the world, it is only reasonable to expect older people to be more conscientious than young people in preventing COVID-19. But the results of the Daoust study in 2020 in 27 countries were unfortunately clear and quite worrying ,and despite the fact that the elderly are much more likely to die from Covid 19 disease than other age groups, they are less likely to follow preventive guidelines at home [11].

Considering the necessity of performing protective behaviors against Covid 19 and strict observance of health protocols among the elderly and designing and implementing appropriate educational interventions to promote protective behaviors in this group and on the other hand, no study has been conducted on the knowledge, attitude, risk perception and practice regarding the prevention of Covid 19 disease in the elderly. The present study was conducted to investigate the knowledge, attitude, risk perception and practice of the elderly about Covid-19 in Urmia.

Objectives

This study was a cross-sectional study that was conducted with the aim to investigate the knowledge, attitude, risk perception and practice of the elderly about Covid-19 in the city of Urmia in 2021.

Methods

The study population was the elderly over 60 years in Urmia. In the same study [12], 2.8% of the elderly population was considered as the sample size. Considering that the elderly population of Urmia was 51,000, it was selected 1400 study cases through 35 health centers. Sampling method was simple random sampling which is first, the list of ealderly people was extracted, then selected by simple random sampling method. Inclusion criteria were age group over 60 years, ability to answer the phone, non-resident nursing home.

This study was approved by the Research Ethics Committee of Islamic Azad University-Tabriz Branch and the goals of the study were explained to all elderly and all of them accepted to participate and were assured consider the confidentiality of their individual information as well as the voluntary nature of participating in the study.

Data collection tools in this study were a researcher-made questionnaires that included demographic characteristics of the subjects and a questionnaire of knowledge, attitude, practice and risk perception of coronavirus. The items of each domain were selected by reviewing the literature and for the validity and reliability of these questionnaires, content validity methods and Cronbach's alpha test were used, respectively. To determine the validity of the questionnaire, it was sent to 10 health education specialists and geriatricians. Based on the experts' opinions, the necessary corrections were applied in the questionnaire. The validity of the questionnaire was higher than 80%. To measure reliability, the questionnaire was completed by 30 elderly people who were not part of the intervention and control group using Cronbach's alpha test, reliability coefficient of knowledge questions 0.76, attitude 0.79, risk perception 0.80 and practice 0.73 Took.

Knowledge assessment was prepared in the form of 16 questions, which were prepared in the form of Yes/ No/I do not know. The "Yes always" option received a score of 2, the "I do not know" option received a score of 1, and the "No" option received a score of zero. Assessment of attitude in the form of 15 questions including five-choice Likert spectrum (strongly agree, agree, have no opinion, disagree, strongly disagree) that I strongly agree with a score of 4 and strongly disagree with a score of zero. Three options "always", "sometimes", "never" were used to measure the practice of the 12 questions. Option (always) 2 points, option (sometimes) 1 point and option (never) zero. For ease of comparing the domains of knowledge, attitude and practice, Perception the risk of scores in these domains were balanced from a score of one hundred and reported. Thus, in each domain, the minimum score was zero and the maximum score was 100, and it was considered the score of 50 cutting points in each domain.

Finally, a question about the use of the mask when leaving the house was designed. Which was yes/no.Health care providers contacted elderly families by telephone and the objectives of the study were explained to all study participants. Then, the questionnaires were completed by health care providers through telephone interviews in Turkish or Kurdish language.

This study was approved by the Research Ethics Committee of Islamic Azad University-Tabriz Branch and the goals of the study were explained to all elderly and all of them accepted to participate and were assured consider the confidentiality of their individual information as well as the voluntary nature of participating in the study.

All statistical analyses were performed at a confidence level (CI) of

0.05 using SPSS18 software. Collected data were analyzed using the descriptive statistics including the percentile and frequency. In this study, ANOVA, Tuki Post Hoc Test and Linear regression, were used to analyze the data.

Results

The mean age of the elderly was 66.6 ± 97.4 years. The highest age group was in the age group of 60 to 65(33%). Most of the elderly were housewives (49%) and marital status indicates that most of the elderly in the study were married (70%). Also, most of the elderly were illiterate in terms of education (51%). In terms of economic status, most of the elderly had poor economic status (41.5%). 72.5% of the elderly had a chronic disease (cardiovascular, respiratory, diabetes, hypertension ...) (Table 1).

Table 1: Frequency and percentage distribution demographic characteristics of the studied elderly.

Variables		Frequency	Percentage
age	60-65	462	33
	65-70	420	30
	70-75	350	25
	75 and more	168	12
sex	Male	686	49
	female	714	51
job	housewife	686	49
	Employee	224	16
	Retired	240	30
	others	70	5
marital status	Married	980	70
	single	196	14
	Spouse dead/divorced	224	16
education	illiterate	714	51
	Elementary/Middle School	490	35
	Diploma and above	196	14
chronic disease	Yes	1015	72.5
	no	385	27.5
The economic situation	Weak	581	41.5
	medium	514	36.7
	good	305	21.8

In this study, it was found that the mean score of knowledge was 67.32 ± 11.22, attitude was 65.51 ± 9.35, practice was 52.24 ± 10.41 and risk perception was 60.46 ± 12.28 of Covid-19 disease. Due to the fact that the scores of these areas were equal to the score of one hundred and reported. Thus, it can be said that 67% of the elderly had knowledge, 65% had positive attitude, 52% had practice and 60% had a risk perception of coronavirus prevention. The rate of using the mask when leaving the house in the elderly was 66% (Table 2).

Table 2: Mean and standard deviation of knowledge, attitude, practice and risk perception of the elderly about coronavirus.

Variables	Average	Standard deviation
Knowledge	67.32	11.22
Attitude	65.51	9.35
Risk perception	60.46	12.28
practice	52.24	10.41
Using mask	Yes (number/percentage)	(924) 66%
	no (number/percentage)	(476) 34%

The results of ANOVA test in two-state variables and Tukey post hoc test for three-state variables and more showed that knowledge of coronavirus prevention had a statistically significant difference)with gender, marital status and chronic diseases (cardiovascular, respiratory, diabetes, hypertension ...) ($p<0.05$). Thus, knowledge was higher in women, married people and the elderly with chronic diseases. On the other hand, the relationship between attitude towards coronavirus prevention and demographic information showed that attitude was higher in women and people with chronic diseases and this difference was statistically significant ($p<0.05$). The study of the relationship between risk perception of the disease and demographic information indicates a high risk perception in the elderly and highly educated and the elderly with chronic disease. And this difference was significant ($p<0.05$) With aging, women, married people and chronic diseases, coronavirus prevention behavior increased and this difference was significant ($p<0.05$) (Table 3).

Table 3: Demographic Information and Its Relationship with Elderly Knowledge, Attitude, Risk Perception, and Practice about Covid-19.

Variables		Mean and standard deviation of knowledge score	P-value	Mean and standard deviation of attitude score	P-value*	Mean and standard deviation of risk perception score	P-value*	Mean and standard deviation of practice score	P-value*
age	60-65	(11.8)67.9	0.7**	(9.27)66.9	0.2**	(11.7)57.1	0.001**	(10.3)45.7	0. 2**
	65-70	(11.2)66.4		(8.3)65.4		(11.2)58.4		(9.2)52.7	
	70-75	(10.2)67.2		(9.2)66.2		(12.2)62.2		(10.2)54.3	
	75 and more	(11.4)67.4		(9.4)66.4		(13.4)63.4		(10.4)55.6	
sex	Male	(11.7)64.8	0.04*	(8.7)63.4	0.03*	(12.8)60.9	0.6*	(9.2)50.5	0.03*
	female	(11.5)67.04		(9.8)67.3		(12.4)59.8		(11.8)54.8	
job	housewife	(10.8)66.9	0.8**	(8.7)65.4		(12.4)60.4		(10.7)50.7	0.7**
	Employee	(12.2)66.4		(9.23)64.8	0.9**	(11.6)59.5	0.5**	(10.3)53.8	
	Retired	(10.4)67.2		(9.42)65.2		(11.2)61.6		(9.2)53.2	
	others	(11.5)68.4		(9.2)65.4		(13.2)60.2		(10.4)50.1	
marital status	Married	(11.2)69.4	0.04	(9.6)65.7		(12.6)59.3		(9.4)55.4	0.04**
	single	(10.2)66.5		(8.8)65.6	0.6**	(12.7)61.2	0.4**	(10.1)51.8	
	Spouse dead/ divorced	(12.3)66.7		(9.9)66.8		(11.2)60.8		(10.7)50.7	
education	illiterate	(11.8)68.7	0.07**	(9.8)65.1		(12.4)56.3		(9.5)51.6	0.08**
chronic disease	Elementary/ Middle School	(12.2)66.2		(9.2)64.5	0.5**	(11.2)58.5	0.02	(10.7)52.7	
	Diploma and above	(11.3)67.8		(9.5)66.8		(12.8)62.6		(10.2)53.8	
	Yes	(11.7)66.4		(8.2)64.6		(12.4)64.4		(10.3)50.9	
	no	(11.7)71.7	0.02*	(9.6)67.7		(13.8)62.4		(11.6)55.7	0.01*
The economic situation	Weak	(11.4)63.2		(8.9)63.3	0.01*	(11.4)58.7		(9.4)49.4	
	medium	(11.1)66.7	0.09**	(9.3)64.4		(11.8)58.8	0.03*	(9.6)53.6	
sex	good	(12.4)68.1		(8.7)65.6		(12.4)62.5		(10.7)52.7	0.08**
	Male	(12.4)67.4		(9.4)66.7	0.07**	(12.1)60.2	0.08**	(9.2)51.8	

*ANOVA test; **Tukey post hoc test

According to Table 4, logistic regression analysis was performed for predictor variables of wearing a mask factors in the elderly. Independent variables of knowledge, attitude, risk perception were included in the model. The most effective factor in predicting wearing a mask was risk perception (P<0.0001, wald=17.20) and attitude and knowledge were involved in predicting of wearing a mask in the next step, respectively.

Table 4: Results of logistic regression analysis of predictive factors wearing a mask in the elderly.

Variables	ß (beta)	S.E (Standard Deviation)	wald	Degrees of freedom	The significance level	Exp(ß)
Knowledge	0.435	0.118	13.58	1	0.001>	1.54
Attitude	0.542	0.169	18.14	1	0.001>	1.65
Perception of risk	0.612	0.192	20.17	1	0.001>	1.84
Constant	12.72	2.33	26.27	1	0.001>	0.000

Discussion

The results showed that the elderly had moderate to high knowledge, attitude, practice and perception of risk about COVID-19. And domains of awareness, attitude, practice, and risk perception play an important role in the prevention and control of coronavirus in the elderly.

The mean score of knowledge in the present study was moderate but, in other studies on Covid-19 in Saudi Arabia (77.2%), China (70.2 to 98.6%) and Malaysia (80.5%), the average knowledge score was appropriate (13-15). Unlike other studies in other countries, almost half of Bangladesh's population was not sufficiently aware of COVID-19 and its current riskous situation [16]. in our study, married women and people with chronic diseases were more aware. In the 2020 Elsheikh study, women with higher education were also more aware of Covid-19 [17]. The 2020 study by Nhu et al. Also found that 92% of married women had sufficient knowledge about disease prevention and control [18]. But in the 2020 study by Fallahi et al., Young men were more aware [19]. The moderate knowledge of older women in the present study reflects the impact of existing media and high risk perception in this group of the population.

More than 60% of the elderly had a good attitude towards the prevention of Covid-19. Perhaps the high mortality in the elderly population was one of the reasons for the good attitude towards the prevention of Covid-19 disease in the elderly. In Rezaei Pendari study in 2018, both men and women had a good attitude towards influenza prevention [20]. In the present study, older women had a better attitude than men about the prevention of Covid disease, which was consistent with the Elsheikh study in 2020 [17]. one of the reasons that men have a lesser knowledge and attitude about the prevention of covid disease is to pay less attention to social issues. Also in the 2020 Fallahi study, housewives had better knowledge, attitudes, and practice than men and self-employed people. It can be concluded that among other factors that can express the better attitude of women towards men, was their job because men were forced to leave home because of their job and in their attitude and behavior has affected [19]. Also in the Fallahi study in 2020 [19], the attitudes of young people and women under 25 towards staying home and preventing Covid 19 disease were very favorable; But in the study of Mahmoudi et al.. and the study of Nhu et al.. In 2020, the results were inconsistent; So that men and young people had poor attitudes and practice towards control of Covid-19 disease [21]. the use of educational tools and teaching methods in different environments could increase the attitudes of the elderly and young people in the two studies. The use of educational tools and teaching methods in different environments can increase the attitude of young people in both studies. So that recognizing the target population and making messages appropriate to them can be more motivation to obtain information and change attitudes. Also, the existence of Internet networks and their greater use in the young population and more cooperation of women in obtaining information and health services can be the reason for the appropriate attitude in young women.

In the present study, the perception of risk was higher in elderly and highly educated elderly and people with chronic diseases. But the perception of risk in the 2020 study by Taghrir et al. [22] was low among medical students with higher education. Also in the Lin study in 2020, young women had a lower risk perception of disease prevention. it seems that social media was not used properly to promote risk perception in the young population. Age factor and cultural characteristics of the elderly community, as well as hospitalization and death of a large number of people, especially the elderly, and widespread information by the mass media, especially radio and television, and the distribution of educational packages by health ambassadors and health liaisons in Iran on prevention of Covid 19 disease had increased risk perception in the elderly population [23].

Despite the efforts made by the Ministry of Health and easy access to information through various media and the appropriate knowledge and attitude of older women, but their practice was not good. one of the reasons could be the dissemination of a lot of information from various media and social networks, which led to confusion and difficulty in answering correctly. This underscores the importance of combating rumors and misinformation about these aspects. The second reason was the low practice of individuals, which could be due to light fines and poor oversight of laws drafted by the Iranian government; As in other countries, fines for not observing social distance and not wearing a mask; It was 10 times the fines issued in Iran [18]. but in the study of Reza Pender et al., Nhu et al. In 2020 with increasing knowledge

and attitude; Practice was also improved [18]. this may indicate that practice is dependent on other factors such as marital status and demographic characteristics. these findings were consistent with the Fallahi study in 2020, so that in this study, demographic characteristics such as age, sex, duration of illness and smoking affected the practice of individuals [19].

The results of our study showed that Covid 19 disease prevention behavior such as wearing mask was increased in the elderly. In the Taghrir study in 2020, individuals also performed very well in preventing Covid 19 disease [22]. Also in the study of Elsheikh et al., The practice of using the mask was 80.6% and the safe distance from people in public places was 82.5% [17]. it seems that the government's strict measures to control the epidemic had changed people's lives and forced them to wear masks and preventive measures. However, in a 2017 study by Fathi et al., Protective behaviors were reported to be undesirable among health care workers and students, such as nurses and physicians [24].

In our study, older women had better COVID-19 prevention behaviors than men, which is consistent with the results of a study by Bell et al.. and Fallahi et al. [19,25]. gender differences regarding preventive behaviors of different diseases on the one hand can be derived from differences in knowledge, sensitivity and perceived severity of the disease and the duration of its disease in men and women [26]. The findings of the present study showed that the perception of risk of COVID-19 was higher than the knowledge, attitude and practice among the elderly. The most effective factor in predicting wearin mask was risk perception and attitude and knowledge in the next step in predicting wearin mask role, respectively. But despite having the right knowledge and attitude about COVID-19, the elderly did not perform well enough to avoid shaking hand with others, to wash their hands frequently with soap and water, and to maintain social distance from others. In the present study, risk perception was identified as an effective factor in preventing Covid 19 disease and wearing mask. in Khazaei et al.'s study in 2020 [27], Najimi et al.'s study in 2013 [28], Rezaei et al. In 2018 [20], Raamkumar et al.. In 2020 [29] Similar to our study, high risk perception As the most important factor in preventing the disease. However a study in 2020 Taghrir and colleagues understand the risk of the Corona disease among last year medical students was not favorable [22]. Experience and high self-esteem among students made them less aware of the risk. Conclusion Perception of risk was recognized as the most effective factor in predicting the use of masks, so it is necessary to pay attention to strict rules in communities with low risk perception and careful monitoring of the dissemination of information through virtual channels and networks. And the information published from virtual channels must be in line with official and valid channels.

Limitations

Access to the target group was difficult in person, so telephone and virtual media were used. Limited time to collect data and generalizability to other countries due to differences in socio-economic status were also limitations of the study.

Researchers need to appreciate at this critical time the efforts of all health advocates in the fight against Covid-19 disease and their cooperation in this study. So it is suggested that careful educational planning for the elderly be done based on the constructs of knowledge, attitude, risk perception that were strong predictors of Covid-19 prevention behavior.

Footnotes

Authors' Contribution: Study concept and design, M and Z; Extraction of plants, RM; Analysis and interpretation of data, Z and M; Drafting of the manuscript, Z and M;Critical revision of the manuscript, KS; Statistical analysis,M.

Conflict of Interests

The authors declared no conflict of interest.

Data Reproducibility

The data presented in this study are openly available in one of the repositories or will be available on request from the corresponding author by this journal representative at any time during submission or after publication. Otherwise, all consequences of possible withdrawal or future retraction will be with the corresponding author.

Ethical Approval

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