Knowledge, Attitude and Practice Towards COVID-19 Among People in Adiyaman, Turkey

Türkiye'nin Adıyaman İlinde İnsanların COVID-19 Salgınına Yönelik Bilgi, Tutum ve Uygulamaları

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ABSTRACT

Aim: *This study was conducted to examine the knowledge, attitude and practices of individuals aged 18 and over towards one of the coronavirus outbreak COVID-19.*

Material and Method: *This cross-sectional study was carried out by applying a questionnaire to individuals who were registered to a family medicine unit in Adiyaman between 12 May and 10 July. The study population consists of 1842 people registered in the family physician unit. With 95% confidence interval, 50% prevalence, 0.5 margin of error, the number of people to be sampled was calculated as 255. The questionnaire was applied through face to face interviews. Averages were given with standard deviations. χ² and t test were used as statistical analysis method. The p<0.05 was considered significant.*

Results: *The average age of participants included in the study was 39.92±13.52 years and 63.0% were women. 84.3% were married. The mean knowledge score of the participants was found to be 5.68±1.71. In our study, the mean knowledge score was significantly higher in men, employees, and those with an associate degree or above (p<0.05). The average attitude score of the participants was 2.40±0.78, and mean practice score was 12.17±1.17. The most known symptom in information questions was fever. If vaccination is available, 84.7% wanted to get vaccinated.*

Conclusion: *The mean score of knowledge, attitude and practice of individuals about COVID-19 was lower than expected. The mean score and attitude mean score were significantly higher in men. Therefore training programs should be planned to increase the knowledge level, positive attitudes and good practices of individuals in the struggle against COVID-19.*

Key words: *COVID-19; attitude; practice; outbreak*

ÖZET

Amaç: *Bu çalışma 18 yaş ve üzeri bireylerin koronavirüs grubundan olan COVID-19 salgınına karşı bilgi, tutum ve uygulamalarını incelemek amacıyla yapılmıştır.*

Materyal ve Metot: *Kesitsel tipte olan bu çalışma 12 Mayıs 2020–10 Haziran 2020 tarihleri arasında Adıyaman ilinde bir Aile Hekimliği Birimine kayıtlı olan bireylere anket formu uygulanarak yapılmıştır. Aile Hekimliği Birimine kayıtlı olan 1842 kişi çalışmanın evrenini oluşturmaktadır. %95 güven aralığı, %50 prevalans, 0,5 hata payı ile örnekleme alınacak kişi sayısı 255 olarak hesaplanmıştır. Anket formu yüz yüze görüşmeler yapılarak uygulanmıştır. Ortalamalar standart sapmalar ile birlikte verilmiştir. İstatistiksel analiz yöntemi olarak X² ve t testi ve kullanılmıştır. P<0,05 anlamlı olarak kabul edilmiştir.*

Bulgular: *Çalışmaya dahil edilen katılımcıların yaş ortalaması 39,92±13,52 yıl olup, %63,0'ı kadındı. %84,3'ü ise evliydi. Katılımcıların bilgi düzeyi ortalaması 5,68±1,71 olarak bulunmuştur. Çalışmamızda bilgi puan ortalaması erkeklerde, çalışanlarda ve ön lisans ve üzeri eğitim seviyesine sahip olanlarda anlamlı olarak daha yüksekti (p<0,05). Katılımcıların tutum puanı ortalaması 2,40±0,78, uygulama puanı ortalaması 12,17±1,17 idi. Bilgi sorularında en çok bilinen semptom ateşti. Aşı olması durumunda %84,7'si aşı yaptırmak istiyordu.*

Sonuç: *Bireylerin COVID-19 hakkında bilgi düzeyi, tutum ve uygulamaları beklenenden düşüktü. Erkeklerde bilgi puan ortalaması ve tutum puan ortalaması anlamlı olarak daha yüksekti. Bu yüzden bireylerin COVID-19 ile mücadelede bilgi düzeyini, olumlu tutum ve uygulamalarını artıracak eğitimler yapılmalıdır.*

Anahtar kelimeler: *COVID-19; tutum; uygulama; salgın*

Introduction

Coronaviruses are enveloped, positive single-stranded RNA viruses that infect both animals and humans[1]. Human infections are known to cause diseases ranging from the common cold to the Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The new coronavirus (SARS-CoV-2) was detected first time with a case report in Wuhan city China in December 2019 and causing COVID-19 disease[2]. Detailed researches have revealed that SARS-CoV transmitted to people from Musk cats in China in 2002 and MERS-CoV from dromedary camels in Saudi Arabia in 2012. The animal source of SARS-CoV-2 has not been identified yet. It is emphasized that some of the first human infections were caused by a live animal market in China[3]. Studies to date show that the virus causing COVID-19 is mainly transmitted through respiratory droplets[2].

The confirmed cases of COVID-19 varied from mild symptoms to severe disease conditions and death. Symptoms can include fever, cough, and shortness of breath. The Centers for Disease Control and Prevention (CDC) believe that symptoms of COVID-19 may appear 2 to 14 days after exposure. This information is based on the incubation time of the MERS-CoV virus previously determined[4]. Standard recommendations to prevent the spread of infection includes regular hand washing, maintaining the physical distance at least 1 meter, avoiding touching eye, mouth and nose and respiratory hygiene[2].

Following the advice of the Emergency Committee on January 30 2020, World Health Organization General Director has declared the outbreak of novel coronavirus (2019-nCoV) a Public Health Emergency of International Concern[5]. World Health Organization General Director stated in media briefing on 11 March 2020 that COVID-19 could be described as a pandemic[6]. At the Situation Report-158, published by WHO on 26 June 2020, 9 473 214 cases and 484 249 deaths was reported worldwide[7].

It is thought that the knowledge, attitude and practices of the public have an important effect on taking preventive measures and closing the gap in providing health information. Weak attitudes and bad practices related to the information gap, has a negative effect on disease prevention and control and contributes to an increased risk of infection during mass meetings[8].

The COVID-19 pandemic, like other pandemics, causes significant increases in morbidity and mortality, damaging the economy through many channels. It causes individual practice changes, such as fearful avoidance from workplaces and other public gathering areas. It causes social and political negative effects[9].

This study was conducted to examine the knowledge, attitude and practice of individuals aged 18 and over against the COVID-19 outbreak.

Material and Method

This study, which is a cross-sectional type, was carried out between the dates of 12 May and 10 July 2020 in the population of family medicine unit-81 of Adiyaman, aged 18 and over. According to the data of Adiyaman Provincial Health Directorate the registered 1842 people aged 18 and over in the family medicine unit-81 constituted the study population of the study. In determining the number of people to be sampled, the formula $n=Nt^2pq/d^2$ (N-1) + t^2pq was used and the number of people to be sampled was calculated as 254 with 95% confidence interval, 50% prevalence and 0.5% deviation.

The questionnaire was prepared after literature review[8,10]. The questionnaire had 8 questions regarding knowledge, 5 questions regarding attitude and 7 questions regarding practices. Assessment was made by giving one point to each correct answer about knowledge and attitude, and giving 2 points to always option, 1 point to sometimes option and 0 point to never option about practices Knowledge questions were evaluated as total 8 points, attitude questions were evaluated as total 5 points and practices related questions were evaluated as total 14 points.

Inclusion criteria were determined as being 18 years of age and over and accepting to participate the study. People included in study was 254, determined by using random numbers table from the study population. Then, people were called by phone and invited to the family health center. Participation in the survey was voluntary, after giving information and signing the consent form it was applied in the waiting area in front of family health center outdoor. The questionnaires were applied by face-to-face interviews by the responsible researcher, after obtaining the ethics committee approval dated 20.04.2020 no: 2020/5 from the Adiyaman University Ethics Committee with permission of ministry of health.

Table 1. *Some socio-demographic characteristics of participants and the distribution of the resources of the knowledge about outbreak*

Variables		Numbers	Percentage
Age	≤30	68	26.8
	>30	186	73.2
Gender	Male	94	37.0
	Female	160	63.0
Maritial status	Married	214	84.3
	Single	40	15.7
Education level	Uneducated	23	9.1
	Primary school	67	26.4
	Secondary school	44	17.3
	High school	48	18.9
	Associate degree/university	72	28.3
Employment	Yes	85	33.5
	No	169	66.5
Source of information	Television	224	88.2
	Internet	24	9.4

The data obtained were recorded in the SPSS 22 program, error checks, tables and statistical analyzes were made through this program. Averages are given with standard deviations. χ^2 and t test were used as statistical analysis method. "$p<0.05$" was considered significant.

Results

The average age of the participants is 39.92 ± 13.52 years and 63.0% are women. Of them 84.3% are married. Of the participants 28.3% are associate degree-university graduates and 66.5% do not work in any job (Table 1). In our study, the frequency of those who heard that the outbreak was 97.6%, the frequency of those who knew the name of the outbreak was 81.5%, the frequency of those who knew the city where the outbreak first appeared was 35.0%, the frequency of those who knew the incubation period was 47.2%, the frequency of those who knew that it could be transmitted from person to person was 95.7% and the frequency of those who knew the possibility of transmission from animal to person was 71.3%. The majority of the participants (88.2%) stated television broadcasts as a source of information (Table 2).

When the answers of the participants to the questions about the attitudes are evaluated; the frequency of those who considered to be dangerous was 96.9%, the

frequency of those who thought that the epidemic was preventable was 68.1%, the frequency of those who thought that education might decrease the probability of transmission 77.6%, the frequency of those who thought that it would affect the economy negatively was 92.9% and the frequency of those who would like to have vaccination was 84.7% (Table 3).

In order to measure the practices of the participants towards preventing the epidemic, the frequency of practice was questioned as "always, sometimes, never" options. "Always" option was preferred the most in all questions posed. This frequency is 94.1% for hand washing practice, 49.6% for physical distancing practice, 46.5% for avoiding touching the eyes, mouth and nose, 87.8% for closing the mouth and nose while coughing and sneezing, 96.4% for the not using the napkin again, 91.0% for mask-wearing practice and 79.5% for avoiding consumption of raw or undercooked foods (Table 4).

In our study, the mean knowledge score was significantly higher in men, employees, and those with an associate degree or above ($p<0.05$). Although not significant, it was high in the group over 30 years old and those who showed internet use as a source of information. In our study, the mean attitude score was high, although not significant, in men, employees, over 30 years of age, and those who showed internet use as a source of information. In our study, the mean score of practice was high in women, those who do not work in any job, those with an associate degree and above education level, in the group over 30 years of age and those who showed internet use as a source of information (Table 5).

Discussion

The main source of information about outbreak is television in our study. Its observed in a similar study that main source was television[10] and in some others it was internet[11,12]. It is thought that these different results may result from the socio-economic and socio-cultural differences of the residents of the country.

When the responses given to information questions are analyzed according to gender, the level of knowledge of men is significantly higher in "which city the outbreak originated" and "the incubation period" questions. In other information questions, although the answers given by men are high, they are not significant. The most known symptom in both sexes was fever. This has been evaluated as a parallel result of the fever being the most common initial symptom[13].

Table 2. *Answers given by participants to information questions about the outbreak and their distribution by gender*

Knowledge questions		Total		Male		Female		Test and p value
		n	%	n	%	n	%	
Name of outbreak	Knows	248	97.6	81	86.2	127	79.4	X²=1.844 p>0.05
	Doesn't know	6	2.4	13	13.8	33	20.6	
Which city outberak originated?	Knows	89	35	48	51.1	41	25.6	X²=16.83 p<0.001
	Doesn't know	165	65	46	48.9	119	74.4	
Fever	Yes	226	89	86	91.5	140	87.5	X²=0.961 p>0.05
	No/no idea	28	11	8	8.5	20	12.5	
Cough	Yes	189	74.4	74	78.7	115	71.9	X²=1.458 p>0.05
	No/no idea	65	25.6	20	20.3	45	28.1	
Breathing difficulties	Yes	189	74.4	71	75.5	118	73.8	X²=0.099 p>0.05
	No/no idea	65	25.6	23	24.5	42	26.3	
Incubation period	knows	120	47.2	53	56.4	67	41.9	X²=5.000 p<0.05
	Doesn't know	134	52.8	41	43.6	93	58.1	
Transmission from human to human	Yes	243	95.7	90	95.7	153	95.6	X²=0.002 p>0.05
	No/no idea	11	4.3	4	4.3	7	4.4	
Transmission from snimal to human	Yes	181	71.3	71	75.5	110	68.8	X²=1.330 p>0.05
	No/no idea	73	28.7	23	24.5	50	31.2	
Total knowledge score	Mean ± SD	5.68±1.71		6.10±1.58		5.44±1.75		t=0.788 p<0.05

Table 3. *Attitudes of participants towards the outbreak of COVID-19 and their distribution by gender*

	Total		Male		Female		p value
	n	%	n	%	n	%	
Is it dangerous?							
Yes	246	96.9	91	96.8	155	96.9	X²=0.001 p>0.05
No/no idea	8	3.1	3	3.2	5	3.1	
Is it preventable?							
Yes	173	68.1	68	72.3	105	65.6	X²=1.229 p>0.05
No/no idea	81	31.9	26	27.7	55	34.4	
Can be decreased by education?							
Yes	197	77.6	79	84	118	73.8	X²=3.604 p>0.05
No/no idea	57	22.4	15	16	42	26.2	
Does it effect world economics negatively?							
Yes	236	92.9	91	96.8	145	90.6	X²=3.438 p>0.05
No/no idea	18	7.1	3	3.2	15	9.4	
Do you vaccinate if present?							
Yes	215	84.7	78	83	137	85.6	X²=0.319 p>0.05
No/no idea	39	15.3	16	17	23	14.4	
Attitude score (mean ± SD)	2.40±0.78		2.45±0.72		2.37±0.082		t=1.827 p>0.05

Tablo 4. *Practices of participants towards preventing the COVID-19 outbreak*

Practice questions	Always		Sometimes		Never	
	n	%	n	%	n	%
Hand washing	239	94.1	15	5.9	0	0
Social distancing	126	49.6	111	43.7	17	6.7
Avoid touching eyes, mouth and nose	118	46.5	111	43.7	25	9.8
Covering mouth when coughing and sneezing	223	87.8	23	9.1	8	3.1
Not to use napkin again	245	96.4	7	2.8	2	0.8
Wearing mask	231	91	11	4.3	12	4.7
Avoid consuming raw or undercooked animal products	202	79.5	47	18.5	5	2

Tablo 5. *Comparative evaluation of the participants' knowledge, attitude and practice scores*

	Knowledge		Atitude		Practices	
	score	test	score	test	score	test
Age						
≤30	5.57±1.62	t=0.136	2.32±0.88	t=4.47	12.00±1.59	t=1.119
>30	5.73±1.75	p>0.05	2.43±0.74	p>0.05	12.24±1.84	p>0.05
Gender						
Male	6.10±1.58	t=0.788	2.45±0.72	t=1.827	12.01±1.92	t=1.585
Female	5.44±1.75	p<0.05	2.37±0.82	p>0.05	12.27±1.68	P>0.05
Education						
High school and below associate	5.42±1.79	t=8.227	2.40±0.79	t=0.155	12.13±1.87	t=2.095
Degree/university	6.36±1.28	p<0.001	2.40±0.78	p>0.05	12.27±1.50	p>0.05
Employment						
Yes	6.38±1.38	t=3.597	2.44±0.73	t=1.510	12.07±1.52	t=1.962
No	5.33±1.76	p<0.001	2.38±0.81	p>0.05	12.23±1.89	p>0.05
Source of information						
Television	5.74±1.61	t=2.061	2.39±0.79	t=0.00	12.23±1.71	t=0.112
Internet	6.16±1.27	p>0.05	2.41±0.77	p>0.05	12.08±1.66	p>0.05
Total score	5.68±1.71		2.40±0.78		12.17±1.17	

When questioned whether or not they will get vaccinated if vaccine is available, the frequency of participants rejecting vaccination or unsure about getting vaccinated was 15.3%. In other study done by an online survey both in Turkey and UK, 34.0% of the participants in Turkey was rejecting vaccination or unsure about getting vaccinated. It has been thought that a relatively high level of vaccination desire may result from the difference of the study population. In the study analyzing 38 studies which are examining attitudes towards vaccines, concerns about reliability and side effects were among the primary causes of hesitation against vaccines[15]. In another study, it was observed that even health care professionals was unsure about vaccination, 35% of healthcare professionals in study population preferred to wait for extensive community experiences before recommending a new vaccine[16].

When the average age and the information score were compared, the mean score below the age of 30 was found to be lower but it was not significant. Similar results were obtained in a study of COVID-19 for healthcare workers and in another study with MERS for healthcare workers[12,17]. When the knowledge score was examined according to gender, it was observed that the information score of men was significantly higher than women (p<0.05). In a study conducted in China, it was observed that women had significantly higher knowledge[18]. In two different studies conducted for health workers with MERS was observed to have a higher level of knowledge of the male[19,11]. Considering

these different results, these result in our study was thought to be result of the male dominant culture in Turkey.

The knowledge score of associate degree/university graduates was significantly higher than that of high school and below graduates (p<0.01). A similar study in Covid-19 in China showed a parallel relationship between education level and knowledge level[18]. And in a study conducted in Northern Thailand, the level of knowledge was found higher in those who had a higher education level[10].

The knowledge score was higher in employees than the ones who are not working in any job (p<0.001). In a similar study, the knowledge score was higher among the employees[18]. It was thought that this result obtained in the employees may be due to the fact that these people feel more at risk due to the fact that they encounter other people more and therefore they need to be informed about the epidemic.

The knowledge score of the participants who stated the internet as the source of information was higher than those who stated the television as the source of information, but it was not significant. In a similar study, when the information source and the average score were compared, the knowledge score was found to be higher in those who stated internet as source of information[10].

It was observed that participants over the age of 30 had a higher attitude score but it was not significant. As similar, in two other studies related to COVID-19, under 30 years of age had the lowest attitude score average[18,10].

In the attitude questions posed to the participants; men have a higher score than women. In a similar study conducted by Srichan et al. [10], the frequency of having adequate attitude scores in women was higher than men, but when the knowledge score was examined in the same study, it was noticed that women had higher knowledge score than men. The results in two similar studies showing the relationship between the frequency of knowledge and positive attitude were thought to support this result[18,20]. Men thought more than women that it would have a negative impact on the economy. It is thought that this attitude about the effects on the economy may result from the higher economic responsibilities of men.

The attitude score of employees is higher than those who do not work in any job. In a study conducted in China, when the occupational groups and attitude scores were analyzed comparatively, it was observed that those who did not work had a lower score than the employees[18]. Our study is compatible with the literature.

In our study, there was no difference in terms of attitude score among those using the internet or television as a source of information. In a similar study conducted in Northern Thailand, the attitude score of those who use television broadcasts as an information source was found to be higher[10]. The difference between studies may have resulted from the difference between the sample groups.

When the practice score average was examined according to age groups, it was higher in those over 30 but not significant. When the similar study examined, it was seen that participants younger than age of 30 had the lowest average[18].

When the practices that should be done for protection from infection examined, it was observed that women had higher practice scores, although not significant. When similar studies were examined, it was seen that women had higher practice scores for protection from infection[10].

When the practices are analyzed in comparison with the education level, it is seen that associate degree/university graduates have higher mean scores in practice scores, although not significant. When the practices were examined in two studies on influenza pandemics, the relationship between education level and practice scores attracted attention[21,22].

As a result, participants knowledge of COVID-19 was moderate and their attitudes were positive, and the knowledge and attitudes of men were higher than women. The most known symptom in knowledge questions was fever. If there is vaccination, 84.7% wanted to get vaccinated. Practice score was positive and no difference was found between the genders. Therefore training programs, that will increase the level of knowledge, positive attitudes and practices of individuals in the struggle against COVID-19 should be planned.

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