Original Article

Being a Caregiver in the Palliative Care Unit in the Pandemic: Who Can Do It Better?

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Abstract

Background: During the Coronavirus Disease-2019 (COVID-19) pandemic, palliative care units and nursing homes became risky in terms of infection transmission. The measures that are taken in the general population have also been strictly applied for caregivers. However, to achieve success, the personal compliance of the caregivers is as important as setting the rules.

Objectives: This study aimed to evaluate the demographic characteristics, knowledge levels, and attitudes towards the measures taken for pandemics of the caregivers who were caring for their patients in the palliative care unit. It was also attempted to evaluate the relationship between these parameters and their quality of life (QOL).

Methods: The level of knowledge and the level of agreement with the measures with questions prepared by three physicians working in the palliative care unit were assessed in this study. The QOL was also evaluated using the 3-level version of EQ-5D (EQ-5D-3L).

Results: Education, employment, smoking, as well as parental and marital status, were found to be related to a high level of knowledge. It has been shown that the level of knowledge is higher in female caregivers and those who were caregiving for less than three years. The caregivers of Alzheimer's disease patients were also revealed to know more about the COVID-19 pandemic. Single, male, employed, smoking, and experienced less than three years caregivers were seemed to have a higher level of agreement with the measures. In addition, it was concluded that the QOL was positively correlated with the level of knowledge and negatively correlated with the compliance of the measures.

Conclusion: It is essential to know the characteristics and beliefs of the caregivers in pandemic management in palliative care; accordingly, more studies should be conducted on this issue.

Keywords: Caregiver, COVID-19, Knowledge, Measures, Pandemics, Quality-of-life

1. Background

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection, which emerged in Wuhan China in December 2019, was recognized as a pandemic on March 11, 2020, after its spread worldwide (1). Older adults who are susceptible to diseases, epidemics, and disasters have also been more affected by the coronavirus disease 2019 (COVID-19) pandemic, compared to young adults (2). Risk of hospitalization, need for intensive care, need for mechanical ventilation, and death is higher due to the increased presence of accompanying diseases (3). The rate of hospitalization has increased 5-fold between the ages of 65-74, 8-fold between the ages of 75-84, and 13-fold in the ages of 85 and over. Furthermore, the mortality rate is 90 times higher between the age of 65-74, 220 times between the age of 75-84, and 630 times in the age of 85 and over (4). Therefore, it is important to protect older adults from disease transmission. Measures implemented by the government could protect older adults living in homes to some extent. However, hospitalized older adults may not be isolated as well as them. While the mortality of the COVID-19 disease is 3%, it is approximately 20% in hospitalized patients (5, 6).

A caregiver is a person who provides care to an adult or a child who needs care. Caregivers caring for patients requiring palliative care face many challenges and experience a high-stress load. The responsibilities that consume the energy and time of caregivers have increased significantly, especially with the addition of measures related to the COVID-19 pandemic. Caregivers play an important role in providing isolation and hygiene conditions for themselves and the patients they care for during the pandemic period. In addition, they are responsible for taking care of their patients carefully so as not to cause decreased immunity in this period (7).

Strict measures are taken against the pandemic in hospitals. It is critical for healthcare professionals to know these measures well and apply them with a determined attitude in terms of preventing the spread of the disease in hospitals. Moreover, it is extremely important for caregivers to comply with pandemic measures. To agree on the benefit of measures, it is important to comply well with the measures. It is also critical for caregivers to have sufficient knowledge about the infection and the transmission routes of the infection.

2. Objectives

This study aimed to reveal the level of knowledge of the caregivers in palliative care about the COVID-19 pandemic and their level of agreement on the

measures taken due to the pandemic. At the same time, it was attempted to explain the effect of different demographic and personal features of patients on the level of knowledge and compliance with the measures. In addition to these, it was aimed to get an idea about which factors might affect the quality of life (QOL) of the caregivers.

3. Methods

3.1. Participants and study design

Caregivers of 300 patients who were hospitalized in the palliative care unit were included in this cross-sectional study. The study protocol was approved by the Gaziantep University Local Research Ethics Committee (Reference No: 2020/427). It is worth mentioning that all participants gave informed consent.

3.2. Inclusion and Exclusion criteria

Caregivers, who care for the patients followed in the palliative care unit and who would continue this duty for at least one week, were included in the study. On the other hand, those who would leave their caregiving duty in less than a week were excluded from the study. In total, 300 caregivers caring for patients in the palliative care unit were included in the study. Furthermore, 60 of them were excluded from the study on the grounds that they would permanently transfer their care duties to another caregiver within a week. Accordingly, the data from the remaining 240 permanent caregivers were analyzed in this study.

3.3. Study design

Demographic characteristics of these participants were recorded, and the level of knowledge about the COVID-19 pandemic was evaluated with 13 questions prepared by three physicians working in the palliative care unit. It should be noted that two of the physicians were internal medicine specialists and one was a professor of geriatrics. A minimum of 0 and a maximum of 44 points could be obtained from this scoring. Additionally, a Likert-scale questionnaire which is consisted of 15 questions were prepared by the same physicians for the evaluation of the belief of caregivers on the benefit of the measures taken against the pandemic. A minimum of 15 and a maximum of 75 points could be obtained from this scoring. The caregivers were also asked if they needed knowledge, money, or psychological support to provide good care in the pandemic. The number of the questions about the knowledge level of the patients answered correctly was calculated and recorded as the total knowledge score. The items were rated on a 5-Likert scale of strongly agree, agree, neutral, disagree, and strongly disagree, and the patients were requested to mark the level that was right for them. These levels were scored from 5 to 1, respectively. The scores from the questions were summed up, and the level of agreement on measures score was calculated. After the survey questions were prepared, the pilot testing was underwent in 30 individuals to confirm the reliability. The data from the pilot study were loaded into SPSS software (version 22) to perform reliability analysis. Regarding the pilot data, the Cronbach's alpha coefficient of the level of knowledge and agreement on measures were obtained at 0.578 and 0.725, respectively, and overall Cronbach's alpha of the questions was determined at 0.624, which indicated acceptable internal consistency. A generally accepted rule is that the Cronbach's alpha value of 0.6-0.7 indicates an acceptable level of reliability; moreover, 0.8 or greater signifies a particularly good level [8].

Regarding the examination of the construct validity of the questionnaire which evaluates the level of compliance with the preventive measures was made by explanatory factor analysis. Since the questionnaire was used for the first time, exploratory factor analysis was applied to the data. A draft scale consisting of 18 items was applied to the participants, and the data obtained were analyzed. As a result of the analysis, three items that could not be collected under any factor were removed from the scale, and five factors including a total of 15 items were found. The results regarding factor analysis are summarized in Tables 1 and 2. Questions are included in the appendix.

Table 1. Evaluation of the data for suitability for factor analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy	0.642
Bartlett's Test of Sphericity	2852.7 105 <0.001*

3.4. Assessment of Quality of Life

The QOL was evaluated by the 3-level version of EQ-5D (EQ-5D-3L), which was introduced in 1990 by the EuroQoL Group. The EQ-5D-3L mainly consists of two parts: the EQ-5D descriptive system and the EQ visual analogue scale (EQ-VAS). The descriptive system evaluates the caregivers for five dimensions, namely mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. There are three levels in each dimension (no problems, some problems, and extreme problems), and patients mark the level that is right for them. This selection results in a 1-digit number that expresses the level selected for that dimension. The digits for the five dimensions can be combined into a 5-digit number that shows the health status of caregivers. In EQ-VAS, the caregivers give a score out of 100 according to their perception of their health status [9]. The Turkish version of this scale was validated in cardiovascular patients [10]. In addition, there are studies in which the EQ-5D quality of life scale is used to evaluate the quality of life of caregivers. Khanna et al. and Lahoz et al. evaluated the QOL of caregivers of patients with autism [11] and those diagnosed with heart failure with the EQ-5D, respectively [12].

Table 2. Post-rotation factors and item load values

Questions	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Washing hands	0.947				
Do not share personal equipment	0.941				
Washing clothes at least 60 degrees	0.765				
Restricting young people from going out	0.611				
Distance education		0.901			
Prohibition of travellingabroad		0.860			
Closing social activity venues		0.824			
Restrictions on trips outside the province		0.767			
Quarantine of those coming from abroad		0.713			
Prohibition of social organizations			0.790		
Shopping via the internet and the phone			0.688		
Remote support for the elderly			0.564		
Prohibition of old people from going out				0.869	
Working in the home office				0.837	
Wearing masks and social distance					0.949

3.5. Statistical analysis

The variables were analyzed for their distribution normality using the Kolmogorov-Smirnov and Shapiro Wilk test. All data were disturbed normally (P>0.05), and power analysis was conducted using Gpower 3.9.1 software. To find statistically significant, the expectation that a medium effect size (dz=0.5) will occur between the parameters, the minimum number required was determined at 80 (α=0.05; 1-β = 0.80). Descriptive statistics were given for continuous variables. Continuous variables of groups were assessed using the independent sample t-test and one-way analysis of variance (ANgttOVA). The data were expressed as mean±SD. Furthermore, the relationships between parameters were investigated by the chi-square test, Pearson correlation analysis, and linear regression model. The statistical significance level was determined at P<0.05, and SPSS (version 22.0; IBM, Armonk, NY) was utilized to analyze the data.

4. Results

Caregivers of patients who were hospitalized in the Gaziantep University Hospital palliative care unit between September 2020 and December 2020 were evaluated in this study. There were 240 caregivers, 48 (20%) of them were male, and 192 (80%) of them were female. In total, 171 patients were being followed up for Alzheimer's disease, 21 for stroke, 12 for cancer, and 36 for other reasons. Furthermore, 105 caregivers were providing care for less than three years, and 135 of them for three or more years. The socio-demographic characteristics of both genders are summarized in Table 3. The mean total

Table 3. Socio-demographic characteristics of caregivers

	Female n=192 (80%)	Male n=48 (20%)	P
Age			
18-24	48 (25%)	24 (50%)	
25-39	51 (26.6%)	12 (25%)	
40-59	75 (39.1%)	12 (25%)	0.006*
>60	18 (9.4%)	0 (0%)	
Marital status			
Single	78 (40.6%)	18 (37.5%)	0.694
Married	114 (59.4%)	30 (62.5%)	
Education level			
Primary school	48 (25%)	3 (6.3%)	
High school	60 (31.3%)	18 (37.5%)	0.013*
University	84 (43.8%)	27 (56.3%)	
Employment status			
Employed	75 (39.1%)	18 (37.5%)	
Unemployed	72 (37.5%)	12 (25%)	0.033*
Retired	45 (23.4%)	18 (37.5%)	
Income			
0-700 USD	132 (68.8%)	39 (81.3%)	
>700 USD	60 (31.2%)	9 (18.7%)	0.837
Presence of kids			
Yes	105 (54.7%)	21 (43.8%)	
No	87 (45.3%)	27 (56.3%)	0.176
Presence of school kids			
Yes	33 (17.2%)	12 (25%)	
No	159 (82.8%)	36 (75%)	0.217
Smoking			
Yes	29 (15.1%)	9 (19%)	
No	163 (84.9%)	39 (81%)	0.813
Duration of caregiving			
<3 years	84 (43.8%)	21 (43.8%)	
≥3 years	108 (56.2%)	27 (56.3%)	0.980

knowledge score was determined at 27.9±9.8, and the mean level of agreement on measures score was obtained at 69.4±4.9. Moreover, 68% of caregivers were gaining knowledge from multiple sources. However, 32% of them were using the Internet as only knowledge source. Primary school graduates were revealed to have less knowledge, compared to the high school graduates (P=0.033) and university graduates (P=0.004). Employed caregivers were observed to have more knowledge than the unemployed (P=0.001) and retired (P<0.001).

In our study, it was concluded that the knowledge level of female patients about the pandemic was higher than that of male patients (P=0.012). However, male caregivers were more compliant with measures, compared to the females (P<0.001). Regarding marital status, single caregivers were more knowledgeable than married caregivers (P<0.001). In addition, caregivers with kids and school-aged kids were revealed to have less knowledge about COVID-19 than caregivers without kids (P<0.001, P<0.001). The knowledge level of caregivers who were smoking was better than non-smokers (P=0.012). They were also more compliant with measures (P=0.001). Those who have been caring for less than three years were more knowledgeable about COVID-19 and more compliant with COVID-19 measures (P=0.009, P=0.002). Additionally, the caregivers of Alzheimer's disease patients knew more about COVID-19 than the caregivers of cancer patients (P<0.001) and stroke (P<0.001) patients. According to the linear regression analysis results, education level, employment status, parenting, smoking, and caregiving time were found to be related to the level of knowledge about the COVID pandemic (r^2=0.430; P=0.035, P<0.001, P<0.001, P<0.001, and P<0.001). According to the linear regression analysis employment status, smoking, and caregiving time were also found to be related to compliance to the pandemic measures (r^2=0.386; P<0.001, P<0.001, and P<0.001). The percentage of correct answers to questions evaluating the level of knowledge about the COVID-19 pandemic is summarized in Table 4.

Mean total knowledge scores of caregivers with different characteristics are summarized in Table 5,

Table 4. Level of knowledge about the COVID-19 pandemic

	Right answer-n (%)	Wrong answer-n (%)
Where did the disease start?	238 (99)	2 (1)
How long is the incubation period?	228 (95)	12 (5)
Is there a proven treatment for the disease?	214 (89)	26 (11)
Has vaccination begun in any country?	195 (81)	45 (19)
Is there a proven preventive treatment for the disease?	195 (81)	45 (19)
Which groups are at risk for disease?	180 (75)	60 (25)
What is the cause of COVID-19?	163 (68)	77 (32)
Which groups are at risk of being a carrier?	149 (62)	71 (38)
What are the symptoms of the disease?	139 (58)	101 (42)
Is there a proven nutritional treatment for the disease?	137 (57)	103 (43)
What are the ways of transmission of the disease?	134 (56)	106 (44)
Are there any recommended treatments for the disease?	130 (54)	110 (46)
Is there any preventive food for the disease?	101 (42)	139 (58)

Table 5. Total knowledge scores of caregivers

Characteristics of caregivers	Mean±SD	P=
Groups (n)		
Education level		
Primary school (45)	24.4±6.5	
High school (77)	28.2±9.6	
University (118)	29.4±10.7	0.014*
Employment status		
Unemployed (84)	26.2±9.7	
Employed (93)	31.3±8.4	
Retired (63)	25±10.3	<0.001*
Marital status		
Single (96)	32.5±7.9	
Married (144)	24.9±9.7	<0.001*
Have kids		
Yes (126)	23.6±9.8	
No (114)	32.6±7.3	<0.001*
With school-aged child		
Yes (45)	17.6±6.2	
No (195)	30.1±9	<0.001*
Smoking		
Yes (38)	31.6±8.1	
No (202)	28.2±7.6	0.012*
Patient's disease		
Alzheimer's disease (165)	29.1±8.8	
Stroke (21)	17.1±8.9	
Malignity (54)	21.8±8.4	<0.001*
Caregiving duration		
<3 years (105)	28.7±7.8	
≥3 years (135)	28.9±7.6	0.896

Table 6. Questions evaluating the level of compliance with pandemic measures

Approach to measures about COVID-19	Strongly agree n (%)	Agree n (%)	Neutral n (%)	Disagree n (%)	Strongly disagree n (%)
Do not share personal equipment	228 (95)	12 (5)	-	-	-
Wearing masks and social distance	219 (91)	21 (9)	-	-	-
Washing hands	228 (95)	2 (1)	3 (4)	-	-
Prohibition of social organizations	204 (85)	33 (14)	2 (1)	-	-
Prohibition of travelling abroad	200 (83)	31 (13)	9 (4)	-	-
Restrictions on trips outside the province	144 (60)	36 (86)	10 (4)		
Quarantine of those coming from abroad	194 (81)	36 (15)	10 (4)	-	-
Closing social activity venues	182 (76)	40 (17)	9 (3.5)	9 (3.5)	-
Remote support for the elderly	144 (60)	96 (40)	-	-	-
Washing clothes at least 60 degrees	188 (78)	48 (20)	4 (2)	-	-
Distance education	150 (62)	72 (30)	9 (4)	9 (4)	-
Working in the home office	137 (57)	85 (35)	9 (4)	-	9 (4)
Restricting young people from going out	137 (58)	82 (34)	18 (7)	3 (1)	-
Prohibition of old people from going out	123 (51)	50 (21)	19 (8)	22 (9)	26 (11)
Shopping via the internet and the phone	151 (63)	61 (25)	12 (5)	16 (7)	-

Table 7. Level of agreement on measures of caregivers

Characteristics of caregivers (n)	Score of levels of agreement on measures	P
Gender		
Male (48)	73.2±1.7	
Female (192)	68.5±5.0	<0.001*
Smoking		
Yes (38)	71.7±2.6	
No (202)	69.1±5.1	0.001*
Caregiving duration		
3 years (105)	70.5±4.6	
≥3 years (135)	68.6±5.0	0.048*

and Table 6 tabulates the percentages of answers to the questions evaluating the level of agreement on measures. The mean level of agreement on measures scores of caregivers with different characteristics are summarized in Table 7. Generally, 74% of the caregivers stated that they need to know more about the COVID-19 pandemic, and 84% of them indicated that they needed psychological support to overcome the COVID-19 pandemic. Furthermore, 78% of the caregivers stated that they needed financial support to overcome the COVID-19 pandemic. Although EQ-5D-3L QOL score was positively correlated with total knowledge score (r=0.134, P<0.001), it was observed to be negatively correlated with compliance with measures (r=- 0.134, P<0.001).

5. Discussion

The primary aim of this study was to reveal the knowledge level of caregivers in the palliative care unit about pandemics and their level of agreement on the measures. The effective parameters were also evaluated in this study. Since COVID-19 is a new disease, there was no general scale for the assessment of caregivers' knowledge level about it and their opinion on preventive measures. It was observed that most caregivers were between the ages of 40 and 59 (females) and between 18 and 24 years (males). The fact that the number of university graduates is higher than primary and high schools may be the result of the presence of professional caregivers. It was also observed that more than 60% of the caregivers in both genders had a monthly income of less than 700 USD. This may indicate that those who earn more do not have enough time to care for their sick relatives and must seek help from others.

The question most correctly answered by caregivers was "Where did the disease first occur?", and "How long is the incubation period?" was the second most frequently known question. Since the answer to the first question is frequently expressed in print and visual media, it is not surprising that it is widely known. However, it was gratifying that the incubation period was known to 95% of the caregivers. Caregivers were aware that there is no cure for COVID-19. However, it was obvious that there was confusion about the availability of drugs that worked. This situation could be a problem by reducing treatment compliance, especially in patients receiving treatment at home. Although it is known that certain foods can provide relief from COVID-19 symptoms, there is no evidence that any food plays a role in the definitive treatment of COVID-19. Plant-based polyphenols have been suggested to be effective in the prevention and treatment of COVID-19 and other viral infections; however, there is no evidence for the treatment of COVID-19 (13). Caregivers seemed to agree on wearing masks, not sharing personal items, social distancing, and hand washing. Nonetheless, they did not seem convinced of curfews and phone/internet shopping. Distance

education and home-office work were also among the measures that found fewer supporters than others. Based on the caregivers, we can guess that the society is very willing to continue the life they are accustomed to, even if they must follow the hygiene and distance measures.

The fact that high school graduates have at least as much knowledge as university graduates is attributed to the availability and widespread use of the internet and social media for many people. Internet usage rate in Turkey has reached 79% in 2020 according to Turkey Statistical Institute data (14). In a study conducted in 2016, the rate of cancer patients and their relatives searching for their disease from the Internet was found to be 64.4% (15). In our study, the rate of those who obtained information about COVID-19 from the Internet was determined at 74%. The fact that those who were employed have more knowledge could be associated with both their education level and more involvement in social life. Although the knowledge level of women was better, it was an interesting result that male caregivers agreed more on preventive measures than females. In a study conducted in Poland, they revealed that only 3.5% of men and 1.9% of women were complying with general health rules. In the same study, they also found that 40% of men and 28% of women smoked and only 2% of smokers obeyed other general health rules (16). In our study, there was also a difference in the smoking rate in favor of men. However, caregivers who smoked both had more knowledge and were more confident in the measures. This situation may be the result of that pandemic is caused by a viral agent that infects the respiratory tract and that smokers are aware of the danger about themselves (17).

The low level of knowledge of those who have kids and school-aged kids can also be attributed to the problem of not having time for research. The fact that caregivers who have been caring for less than three years take preventive measures more seriously than caregivers who have been caring for three years or more may be attributed to the concern of less experienced caregivers. It was observed that the knowledge level of caregivers who were caring for less than three years was also better. Although the mastery of caregiving seems to be a negative situation in our study because it leads to relaxing, it has been proven to be protective against caregiver anxiety, depression, and burnout (18). Caregivers with a higher level of knowledge were found to have higher QOL. The relationship between knowledge level and QOL was previously studied for diabetic patients and a similar result was found (19). In a previous study, it was stated that the QOL of caregivers of stroke patients was correlated with their education level (20). A high level of compliance with the measures could decrease the QOL by increasing the level of anxiety and avoidance behavior. Since most caregivers indicated that they required financial, psychological, or knowledge support, it could be better for governments to make policies supporting caregivers. Previously, a descriptive study was conducted to evaluate the knowledge, attitude, and behavior of the general population against the epidemic of SARS (21). In this study, 73.0% of participants knew that SARS was highly contagious; moreover, 69.9% of them knew that it could spread through close contact. Furthermore, 67.4% of the respondents were aware that high fever was one of the early symptoms, and 60.8% of them were thinking that SARS was a treatable disease. Half of the participants stated that they gained most of their knowledge about SARS through television and radio programs. In total, three-fifths of the individuals were afraid to travel because of SARS. The level of knowledge about SARS was better among educated people. Battineni et al. evaluated coronavirus awareness in seafarers. Participants with an average knowledge score of 5.2/6 had answered 97% of the questions correctly.

Although the knowledge levels of the participants were pleasing, they were not found to be related to education level, which is different from our study (22). In the study of Wolf et al., approximately, 30% of individuals with chronic diseases had the insufficiency to recognize the symptoms of the disease and know the ways of prevention (23). Gambhir et al. observed that the level of knowledge of dental health professionals and their attachment to preventive practices are not at the desired level (24). In the same line, Khader et al. observed that there were some deficiencies in the pandemic-related knowledge and practices of dentists in his study group (25). Our study is valuable in that it is the first study to evaluate the knowledge level of people who must assume the caregiver role in the COVID-19 pandemic and their perspective towards measures together. Considering the caregivers' shortcomings and detecting their wrong opinions is especially important in the management of health services. This information could also be useful in the management of similar situations that the world may encounter in the future. In the probable event of another outbreak or other public health problems in the future, it may be considered to provide more training and support to groups that are found inadequate in terms of information and compliance in our study and similar studies. It could be better to do such a study with a larger population with a wide distribution of socio-demographic features.

Limitations

The most important limitation of the study is that the questions to evaluate the level of knowledge and perspective on preventive measures were prepared by the authors. To overcome this, utmost attention

was paid to have a clear answer to the questions and avoid speculative issues. Factor analysis was also used to eliminate improper and unnecessary questions. In addition, the questions were shared in the appendix.

6. Conclusion

It is essential to know the characteristics and beliefs of the caregivers in pandemic management in palliative care; accordingly, more studies should be conducted on this issue.

Acknowledgments

Footnotes

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Appendix:

Part-1 Socio-demographic features

1) How old are you?
A) 18-24
B) 25-39
C) 40-59
D) ≥60

2) Choose your gender,
A) Male
B) Female

3) Choose your marital status,
A) Single
B) Married

4) Choose the school you graduated from,
A) Primary school
B) High school
C) University

5) Choose your employment status,
A) Employed
B) Unemployed

6) Choose your monthly income,
A) <700 USD
B) ≥700 USD

7) Do you have a kid?
A) Yes
B) No

8) Do you have a school kid?
A) Yes
B) No

9) Do you smoke?
A) Yes
B) No

10) How long have you been caring for your patient?
A) <3 years
B) ≥3 years

11) What is your patient's illness?
A) Alzheimer's disease
B) Stroke
C) Cancer
D) Other

Part-2 Patient knowledge level

It is possible to have more than one correct option, check all the options you think are correct.

1) What is the cause of COVID-19?
A) Virus -1 point
B) Bacterium -0 point
C) Fungus -0 point
D) Parasite microorganism -0 point
E) Immune deficiency -0 point
F) Hereditary -0 point

2) What are the ways of transmission of the disease?
A) Droplets that spread through coughing, sneezing, etc. -1 point
B) Contact of people to each other -1 point
C) Contact of people to surfaces -1 point
D) Use of common items with sick individuals -1 point

E) Stool contamination -1 point
F) Sexually (0 points if marked, 1 point if not marked)

3) Where did the disease start?
A) China -1 point
B) Iran -0 point
C) Italy -0 point
D) ABD -0 point
E) Russia -0 point

4) What are the symptoms of the disease?
A) Pain -1 point
B) Nasal congestion -1 point
C) Runny nose -1 point
D) Sore throat -1 point
E) Diarrhea -1 point
F) Fever -1 point
G) Cough -1 point
H) Shortness of breath -1 point
İ) Loss of appetite -1 point
J) Difficulty in swallowing -1 point
K) Some may have no complaint -1 point

5) Which groups are at risk of being a carrier?
A) Newborns -1 point
B) Childs -1 point
C) Adolescents -1 point
D) Young adults -1 point
E) Middle-aged adults -1 point
F) Older adults -1 point
G) Immunosuppressive drug users -1 point
H) Cancer patients -1 point
İ) Chronic disease patients -1 point

6) Which groups are at high risk for disease?
A) Newborns (0 points if marked, 1 point if not marked)
B) Childs (0 points if marked, 1 point if not marked)
C) Adolescents (0 points if marked, 1 point if not marked)
D) Young adults (0 points if marked, 1 point if not marked)
E) Middle-aged adults (0 points if marked, 1 point if not marked)
F) Older adults -1 point
G) Immunosuppressive drug users -1 point
H) Cancer patients -1 point
İ) Chronic disease patients -1 point

7) Is there a proven treatment for the disease?
A) Yes
B) No -1 point

8) Are there any recommended treatments for the disease?
A) Yes -1 point
B) No

9) Has vaccination begun in any country??
A) Yes -1 point
B) No

10) Is there a proven preventive treatment for the disease?
A) Yes
B) No -1 point

11) Is there any preventive food for the disease?
A) Yes
B) No -1 point

12) Is there a proven nutritional treatment for the disease?
A) Yes

B)   No -1 point

13)   How long is the incubation period?
A)   0-2 days
B)   1 week
C)   2-14 days -1 point
D)   1 month
E)   1-3 months

Part – 3 Please tick the choice according to your opinion about the measures taken for COVID-19.
1)   Do not share personal equipment
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

2)   Wearing masks and social distance
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

3)   Washing hands
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

4)   Prohibition of social organizations
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

5)   Prohibition of travelling abroad
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

6)   Restrictions on trips outside the province
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

7)   Quarantine of those coming from abroad
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

8)   Closing social activity venues
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

9)   Remote support for the elderly
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

10)   Washing clothes at least 60 degrees
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

11)   Distance education
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

12)   Working in the home office
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

13)   Restricting young people from going out
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

14)   Prohibition of old people from going out
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

15)   Shopping via the internet and the phone
A)   Strongly agree
B)   Agree
C)   Neutral
D)   Disagree
E)   Strongly disagree

Strongly agree: 5 points
Agree: 4 points
Neutral: 3 points
Disagree: 2 points
Strongly disagree: 1 point