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Symptom Changes in COVID-19 Patients in the Disease Process and Differences in Symptoms According to Some Demographic and Clinical Characteristics

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History

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ABSTRACT

The purpose of this study was to evaluate the change of symptoms in COVID-19 patients over a ten-day period and their differences according to some characteristics. This retrospective epidemiological study was conducted using the records of all patients who were found to be positive for COVID-19 between September 2020 and November 2020 in Sivas. Of the 9985 COVID-19 cases, 4159 (41.7%) were between the ages of 19-40, 5327 (53.4%) were women, 9227 (93.4%) received outpatient treatment, 7019 (70.3%) had no chronic disease, 8552 (85.6%) were non-smokers. Headache, fever-chills, joint pain were the most common symptoms on the first day of disease, while cough, fatigue, and loss of smell were the most common on the tenth day. Headache, joint pain, fatigue, cough, waist-back pain, loss of smell/taste and runny nose were in forefront in the 19-40 age group. Fever-chills were more common in male, while many of the other symptoms were more common in female. Headache, throat ache, loss of smell/taste, and diarrhea were common in patients with no chronic disease. Cough, nausea-vomiting, and abdominal pain were predominant in non-smokers. Those at the young age group, female, those without chronic diseases and non-smokers can also develop COVID-19 symptoms.

Keywords: Chronic disease, Covid-19, Gender, Smoking, Symptoms

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Introduction

With the definition of the Coronavirus disease 2019 (COVID-19) epidemic as a pandemic on March 11, 2020, the disease has become one of the most researched subjects (WHO, 2020). It has been reported that the mean incubation period of the disease is 5.2 days, and the most common symptoms are sudden onset fever, cough, and shortness of breath (Jiang et al., 2020; Li et al., 2020; Wang et al., 2020; Xu et al., 2020a). Since the risk of transmission is highest in the early stage of the disease, it is important to screen those with compatible symptoms first in determining the people to be quarantined (Gostic et al., 2020; Wölfel et al., 2020; Yang et al., 2020). To maximize the use of limited health system resources, it is imperative to identify those at risk of progression to severe and critical illness with COVID-19 (Jain and Yuan, 2020). Age and underlying chronic conditions are thought to increase the risk of severe COVID-19, but the differential impact of various comorbidities remains unclear (Centers for Disease Control and Prevention, 2020). Until now, only a few demographic and clinical factors, such as advanced age, diabetes, and cardiovascular diseases, have been associated with poor outcome and increased mortality risk (H. Chen et al., 2020; Xu et al., 2020b).

To limit the pandemic, early symptoms can be identified, and people can isolate themselves before they are tested. On the other hand, some of the characteristics of people can also affect the course of the disease. Therefore, the aim of this study was to evaluate the change of symptoms in COVID - 19 positive people over a ten-day period and their differences according to characteristics such as age, gender, inpatient status, presence of chronic disease, smoking status.

Material and Methods

This retrospective epidemiological study was conducted using the records of all individuals who were found to be positive for COVID-19 in Sivas, Turkey, between 12 September 2020 and 3 November 2020. By the Sivas Provincial Health Directorate, 9985 people who tested (Polymerase Chain Reaction-PCR test) positive for COVID-19 within the specified date range, were called on the first day the test was positive and the tenth day of the disease. COVID-19-related symptoms (15 symptoms) were questioned by the directorate staff over the phone using a checklist drawn from the literature. In addition, some characteristics of the patients (age, gender, inpatient or outpatient treatment, presence of chronic disease, and smoking status) were also recorded with the same method. Using this registry information, the change in symptoms in COVID-19 positive individuals over a ten-day period and their differences according to characteristics such as age, gender, inpatient or outpatient treatment, presence of chronic disease, and smoking status were evaluated. An institutional permission (Decision no: 2021/02) was obtained for the study.

Statistical analysis

The data obtained from our study were evaluated with the SPSS 22.0 program. Percentage distribution, chi-square test and binary logistic regression analysis were used in the evaluation. While performing the regression analysis, age, gender, treatment, chronic disease, and smoking were included in the models separately for each symptom. The error level was taken as 0.05.

Ethics statement

The present study protocol was reviewed and approved by the Institutional Review Board of Sivas University Faculty of Medicine (approval No. 2021-01/13). Informed consent was submitted by all subjects when they were enrolled.

Results

The distribution of the symptoms seen in COVID-19 patients according to some characteristics of patients

Of the 9985 COVID-19 cases detected at the time of the study, 4159 (41.7%) were between the ages of 19-40, 5327 (53.4%) were women, 9227 (93.4%) received outpatient treatment, 7019 (70.3%) had no chronic disease, 8552 (85.6%) were non-smokers (Table 1). The five most common symptoms in the patients were headache (19.4%), fever, chills (18.6%), joint pain (18.6%), fatigue (17.8%), and cough (17.7%). Headache was more common in those aged 19-40 years, in women, in outpatients and in those had no chronic disease (P = 0.001 for each). Fever and chills were more common in those aged 0-18 years, in males, and in outpatients (P = 0.001 for each). Joint pain was more common in those aged 19-40 years (P = 0.001), in female (P = 0.001), in outpatients (P = 0.001), and in those had chronic disease (P = 0.018). Fatigue was more common in those aged 19-40 years (P = 0.001) and in outpatients (P = 0.006). Cough was more common in those aged 19-40 years (P = 0.039), in female (P = 0.001), in those had chronic disease (P = 0.001) and in non-smokers (P = 0.001). Throat ache was more common in those aged 0-18 years (P = 0.001), in female (P = 0.001), in outpatients (P = 0.001) and in those had no chronic disease (P = 0.001). Waist-back pain was more common in those aged 19-40 years (P = 0.001), in outpatients (P = 0.001) and in smokers (P = 0.001). Loss of smell was more common in those aged 19-40 years (P = 0.001), in female (P = 0.033), in outpatients (P = 0.001), in those had no chronic disease (P = 0.001) and in smokers (P = 0.001). Loss of taste was more common in those aged 19-40 years, in female, in outpatients, in those had no chronic disease and in smokers (P = 0.001 for each). Muscle pain was more common in those aged 41-64 years (P = 0.001) and in outpatients (P = 0.005). Shortness of breath was more common in female (P = 0.013), in inpatients (P = 0.001) and in those had chronic disease (P = 0.001). Nausea-vomiting was more common in those aged 0-18 years (P = 0.001), in female (P = 0.001), in those had chronic disease (P = 0.007) and in non-smokers (P = 0.001). Runny nose was more common in those aged 19-40 years (P = 0.001), in outpatients (P = 0.001) and in smokers (P = 0.001). Diarrhea was more common in those aged 0-18 years (P = 0.001) and in those had no chronic disease (P = 0.040). Abdominal pain was more common in those aged 0-18 years (P = 0.001), in outpatients (P = 0.032) and in non-smokers (P = 0.010) (Table 1).

The distribution of symptoms seen in COVID-19 patients on the first and tenth days

It was determined that the symptoms seen in the patients on the first day of the disease persisted on the tenth day, albeit slightly (Table 2, Figure 1). The most persistent symptoms on the tenth day of disease were cough (6.0%), fatigue (5.1%), loss of smell (1.9%), and waist-back pain (1.7%) (Table 2, Figure 1).

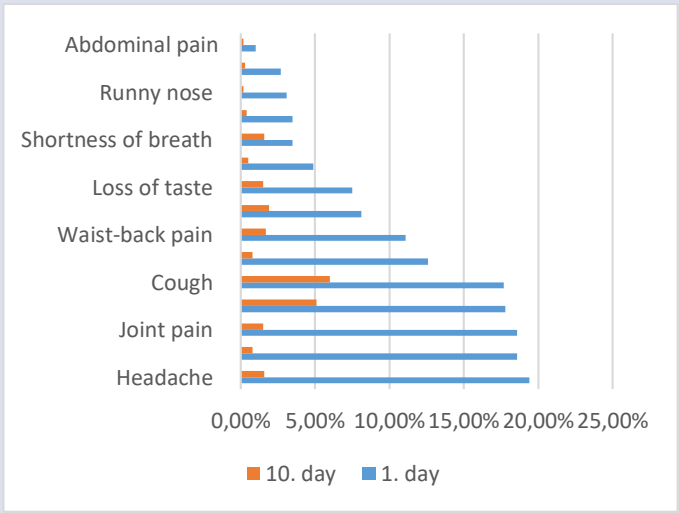


Figure 1. Distribution of symptoms seen in COVID-19 patients on the first and tenth days (n=9985)

Table 1. Distribution of symptoms seen in COVID-19 patients according to some characteristics of patients

Symptoms	Total (n,%)	Age groups (n,%)				Gender (n,%)	
		0-18	19-40	41-64	≥65	Female	Male
	9985(100.0)	950(9.5)	4159(41.7)	3585(35.9)	1291(12.9)	5327(53.4)	4658(46.6)
Headache (Yes)	1934(19.4)	181(19.1)	993(23.9)	658(18.4)	102(7.9)	1133(21.3)	801(17.2)
			x^2=165.236, **P=0.001			x^2=26.394, **P=0.001	
Fever, chills (Yes)	1861(18.6)	236(24.8)	763(18.3)	687(19.2)	175(13.6)	885(16.6)	976(21.0)
			x^2=46.993, **P=0.001			x^2=30.863, **P=0.001	
Joint pain (Yes)	1862(18.6)	106(11.2)	877(21.1)	741(20.7)	138(10.7)	1069(20.1)	793(17.0)
			x^2=114.995, **P=0.001			x^2=15.169, **P=0.001	
Fatigue (Yes)	1773(17.8)	110(11.6)	783(18.8)	649(18.1)	231(17.9)	945(17.7)	828(17.8)
			x^2=28.398, **P=0.001			x^2=0.002, P=0.962	
Cough (Yes)	1770(17.7)	950(14.6)	4159(18.5)	3585(17.5)	1291(18.0)	1046(19.6)	724(15.5)
			x^2=8.347, *P=0.039			x^2=28.541, **P=0.001	
Throat ache (Yes)	1262(12.6)	158(16.6)	659(15.8)	391(10.9)	54(4.2)	781(14.7)	481(10.3)
			x^2=145.787, **P=0.001			x^2=42.291, **P=0.001	
Waist-back pain (Yes)	1108(11.1)	46(4.8)	547(13.2)	437(12.2)	78(6.0)	605(11.4)	503(10.8)
			x^2=93.262, **P=0.001			x^2=0.786, P=0.375	
Loss of smell (Yes)	806(8.1)	65(6.8)	551(13.2)	170(4.7)	20(1.5)	459(8.6)	347(7.4)
			x^2=279.710, **P=0.001			x^2=4.560, *P=0.033	
Loss of taste (Yes)	745(7.5)	65(6.8)	511(12.3)	149(4.2)	20(1.5)	445(8.4)	300(6.4)
			x^2=262.852, **P=0.001			x^2=13.173, **P=0.001	
Muscle pain (Yes)	487(4.9)	24(2.5)	226(5.4)	202(5.6)	35(2.7)	263(4.9)	224(4.8)
			x^2=31.585, **P=0.001			x^2=0.088, P=0.767	
Shortness of breath (Yes)	351(3.5)	24(2.5)	165(4.0)	116(3.2)	46(3.6)	210(3.9)	141(3.0)
			x^2=6.080, P=0.108			x^2=6.136, *P=0.013	
Nausea-vomiting (Yes)	354(3.5)	57(6.0)	135(3,2)	114(3.2)	48(3.7)	237(4.4)	117(2.5)
			x^2=19.341, **P=0.001			x^2=27.272, **P=0.001	
Runny nose (Yes)	309(3.1)	34(3.6)	154(3.7)	102(2.8)	19(1.5)	178(3.3)	131(2.8)
			x^2=17.955, **P=0.001			x^2=2.320, P=0.128	
Diarrhoea (Yes)	270(2.7)	41(4.3)	142(3.4)	68(1.9)	19(1.5)	146(2.7)	124(2.7)
			x^2=33.686, **P=0.001			x^2=0.058, P=0.809	
Abdominal pain (Yes)	101(1.0)	23(2.4)	35(0.8)	28(0.8)	15(1.2)	63(1.2)	38(0.8)
			x^2=22.244, **P=0.001			x^2=3.340, P=0.068	

Symptoms	Total (n,%)	Treatment (n,%)		Chronic disease (n,%)		Smoking (n,%)	
		Outpatient	Inpatient	No	Yes	No	Yes
	9985(100.0)	9227(92.4)	758(7.6)	7019(70.3)	2966(29.7)	8552(85.6)	1433(14.4)
Headache (Yes)	1934(19.4)	1876(20.3)	58(7.7)	1435(20.4)	499(16.8)	1658(19.4)	276(19.3)
		x^2=72.112, **P=0.001		x^2=17.500, **P=0.001		x^2=0.013, P=0.910	
Fever, chills (Yes)	1861(18.6)	1762(19.1)	99(13.1)	1336(19.0)	525(17.7)	1610(18.8)	251(17.5)
		x^2=16.826, **P=0.001		x^2=2.445, P=0.118		x^2=1.390, P=0.238	
Joint pain (Yes)	1862(18.6)	1786(19.4)	76(10.0)	1267(18.1)	595(20.1)	1571(18.4)	291(20.3)
		x^2=40.191, **P=0.001		x^2=5.551, *P=0.018		x^2=3.036, P=0.081	
Fatigue (Yes)	1773(17.8)	1666(18.1)	107(14.1)	1219(17.4)	554(18.7)	1529(17.9)	244(17.0)
		x^2=7.444, **P=0.006		x^2=2.455, P=0.117		x^2=0.610, P=0.435	
Cough (Yes)	1770(17.7)	1654(17.9)	116(15.3)	1154(16.4)	616(20.8)	1603(18.7)	167(11.7)
		x^2=3.302, P=0.069		x^2=26.774, **P=0.001		x^2=42.307, **P=0.001	
Throat ache (Yes)	1262(12.6)	1240(13.4)	22(2.9)	968(13.8)	294(9.9)	1100(12.9)	161(11.3)
		x^2=70.427, **P=0.001		x^2=28.410, **P=0.001		x^2=2.697, P=0.101	
Waist-back pain (Yes)	1108(11.1)	1083(11.7)	25(3.3)	772(11.0)	336(11.3)	907(10.6)	201(14.0)
		x^2=50.567, **P=0.001		x^2=0.230, P=0.632		x^2=14.558, **P=0.001	
Loss of smell (Yes)	806(8.1)	790(8.6)	16(2.1)	673(9.6)	133(4.5)	639(7.5)	167(11.7)
		x^2=39.283, **P=0.001		x^2=73.199, **P=0.001		x^2=28.926, **P=0.001	
Loss of taste (Yes)	745(7.5)	728(7.9)	17(2.2)	614(8.7)	131(4.4)	589(6.9)	156(10.9)
		x^2=32.352, **P=0.001		x^2=56.642, **P=0.001		x^2=28.427, **P=0.001	
Muscle pain (Yes)	487(4.9)	466(5.1)	21(2.8)	340(4.8)	147(5.0)	405(4.7)	82(5.7)
		x^2=7.848, **P=0.005		x^2=0.057, P=0.812		x^2=2.575, P=0.109	
Shortness of breath (Yes)	351(3.5)	304(3.3)	47(6.2)	214(3.0)	137(4.6)	300(3.5)	51(3.6)
		x^2=17.439, **P=0.001		x^2=15.155, **P=0.001		x^2=0.009, P=0.923	
Nausea-vomiting (Yes)	354(3.5)	321(3.5)	33(4.4)	226(3.2)	128(4.3)	325(3.8)	29(2.0)
		x^2=1.567, P=0.211		x^2=7.320, **P=**0.007**		x^2=11.328, **P=0.001	
Runny nose (Yes)	309(3.1)	302(3.3)	7(0.9)	228(3.2)	81(2.7)	239(2.8)	70(4.9)
		x^2=12.984, **P=0.001		x^2=1.861, P=0.173		x^2=17.880, **P=0.001	
Diarrhoea (Yes)	270(2.7)	254(2.8)	16(2.1)	205(2.9)	65(2.2)	227(2.7)	43(3.0)
		x^2=1.097, P=0.295		x^2=4.213, *P=**0.040**		x^2=0.560, P=0.454	
Abdominal pain (Yes)	101(1.0)	99(1.1)	2(0.3)	68(1.0)	33(1.1)	96(1.1)	5(0.3)
		x^2=4.579, *P=0.032		x^2=0.431, P=0.512		x^2=6.584, *P=0.010	

Table 2. Distribution of symptoms seen in COVID-19 patients on the first and tenth days (n=9985)

Symptoms	1. day (n,%)	10. day (n,%)
Headache (Yes)	1934 (19.4)	157 (1.6)
Fever, chills (Yes)	1861 (18.6)	76 (0.8)
Joint pain (Yes)	1862 (18.6)	145 (1.5)
Fatigue (Yes)	1773 (17.8)	511 (5.1)
Cough (Yes)	1770 (17.7)	597 (6.0)
Throat ache (Yes)	1262 (12.6)	82 (0.8)
Waist-back pain (Yes)	1108 (11.1)	170 (1.7)
Loss of smell (Yes)	806 (8.1)	189 (1.9)
Loss of taste (Yes)	745 (7.5)	150 (1.5)
Muscle pain (Yes)	487 (4.9)	49 (0.5)
Shortness of breath (Yes)	351 (3.5)	155 (1.6)
Nausea-vomiting (Yes)	354 (3.5)	42 (0.4)
Runny nose (Yes)	309 (3.1)	15 (0.2)
Diarrhoea (Yes)	270 (2.7)	30 (0.3)
Abdominal pain (Yes)	101 (1.0)	15 (0.2)

Table 3. Relationship of symptoms seen in COVID-19 patients with some characteristics of patients (n=9985)

Symptoms	Age	Gender[a] (Male)	Treatment[b] (Inpatient)	Chronic disease[c] (Yes)	Smoking[c] (Yes)
	OR (95% CI), *P*	OR (95% CI), *P*	OR (95% CI), *P*	OR (95% CI), *P*	OR (95% CI), *P*
Headache[c] (Yes)	0.99 (0.98-0.99) 0.001**	0.76 (0.69-0.85) 0.001**	0.43 (0.32-0.57) 0.001**	0.97 (0.86-1.10) 0.623	0.99 (0.86-1.15) 0.946
Fever, chills[c] (Yes)	0.99 (0.98-0.99) 0.001**	1.40 (1.26-1.55) 0.001**	0.75 (0.59-0.94) 0.012*	1.11 (0.98-1.25) 0.113	0.79 (0.68-0.92) 0.002**
Joint pain[c] (Yes)	0.99 (0.99-1.01) 0.246	0.81 (0.73-0.90) 0.001**	0.47 (0.37-0.61) 0.001**	1.21 (1.08-1.37) 0.002**	1.19 (1.03-1.37) 0.021
Fatigue[c] (Yes)	1.01 (1.00-1.01) 0.004**	1.02 (0.91-1.13) 0.775	0.66 (0.52-0.82) 0.001**	1.04 (0.91-1.17) 0.589	0.94 (0.81-1.10) 0.456
Cough[c] (Yes)	0.99 (0.99-1.01) 0.213	0.83 (0.75-0.92) 0.001**	0.78 (0.63-0.97) 0.025*	1.34 (1.18-1.51) 0.001**	0.61 (0.51-0.73) 0.001**
Throat ache[c] (Yes)	0.98 (0.98-0.99) 0.001**	0.67 (0.59-0.77) 0.001**	0.30 (0.19-0.46) 0.001**	0.93 (0.80-1.08) 0.346	0.89 (0.74-1.06) 0.186
Waist-back pain[c] (Yes)	1.01 (0.99-1.01) 0.686	0.90 (0.79-1.03) 0.122	0.26 (0.17-0.39) 0.001**	1.10 (0.94-1.28) 0.227	1.37 (1.16-1.63) 0.001**
Loss of smell[c] (Yes)	0.98 (0.97-0.98) 0.001**	0.75 (0.64-0.87) 0.001**	0.46 (0.27-0.76) 0.003**	0.67 (0.54-0.82) 0.001**	1.61 (1.33-1.95) 0.001**
Loss of taste[c] (Yes)	0.97 (0.97-0.98) 0.001**	0.66 (0.56-0.77) 0.001**	0.55 (0.34-0.91) 0.020*	0.74 (0.60-0.91) 0.005**	1.72 (1.42-2.10) 0.001**
Muscle pain[c] (Yes)	1.01 (0.99-1.01) 0.384	0.94 (0.78-1.14) 0.539	0.51 (0.32-0.81) 0.004	1.03 (0.82-1.28) 0.813	1.23 (0.95-1.58) 0.116
Shortness of breath[c] (Yes)	0.99 (0.98-0.99) 0.002**	0.78 (0.62-0.98) 0.031*	2.24 (1.58-3.18) 0.001**	1.67 (1.31-2.14) 0.001**	1.18 (0.86-1.61) 0.311
Nausea-vomiting[c] (Yes)	0.99 (0.98-099) 0.001	0.61 (0.49-0.77) 0.001**	1.51 (1.02-2.24) 0.040*	1.52 (1.19-1.95) 0.001**	0.62 (0.42-0.92) 0.017*
Runny nose[c] (Yes)	0.99 (0.98-0.99) 0.007**	0.74 (0.58-0.94) 0.015*	0.38 (0.17-0.81) 0.013*	1.05 (0.79-1.39) 0.752	1.84 (1.39-2.45) 0.001**
Diarrhoea[c] (Yes)	0.98 (0.97-0.99) 0.001	0.96 (0.75-1.23) 0.748	1.29 (0.75-2.21) 0.357	1.06 (0.78-1.45) 0.700	1.09 (0.78-1.54) 0.612
Abdominal pain[c] (Yes)	0.98 (0.97-0.99) 0.011*	0.81 (0.54-1.22) 0.316	0.30 (0.07-1.26) 0.101	1.48 (0.93-2.37) 0.098	0.31 (0.13-0.78) 0.013*

n Number of participants, OR Odds ratio, CI Confidence interval, Reference categories; [a]=Female, [b]=Outpatient, [c]=No. *P < 0.05, **P < 0.01

The relationship of symptoms seen in COVID-19 patients with some characteristics of patients

Increasing age increased the probability of fatigue 1.01 times (P = 0.004). Fever and chills were 1.4 times more likely in male (P = 0.001) (Table 3). Shortness of breath was 2.2 times (P = 0.001) and nausea-vomiting was 1.5 times (P = 0.040) more common in inpatients. In those with chronic disease, the probability of joint pain was 1.2 times (P = 0.002), the probability of coughing was 1.3 times (P = 0.001), the probability of shortness of breath was 1.7 times (P = 0.001), and the probability of nausea-vomiting was 1.5 times (P = 0.001) more. Smoking increased the likelihood of a joint pain 1.2 times (P = 0.021), increased the likelihood of a waist-back pain 1.4 times (P = 0.001), increased the likelihood of a loss of smell 1.6 times (P = 0.001), increased the likelihood of a loss of taste 1.7 times (P = 0.001) and increased the likelihood of a runny nose 1.8 times (P = 0.001) (Table 3).

Discussion

According to data from China, an estimated 10-15% of mild cases of COVID-19 progress to severe and 15-20% of severe cases become critical, with most of the latter category requiring treatment in intensive care units (Wu and McGoogan, 2020). Therefore, it is important to detect early-stage symptoms of the disease in order to determine who should be tested and to screen those with compatible symptoms. Contrary to most previous studies, it is important that our study includes all cases that were found to be positive for COVID-19 in a certain time, and not only those who were hospitalized, but also those who received outpatient treatment. As a matter of fact, Grant et al., in their systematic review and meta-analysis study to determine the prevalence of COVID-19 symptoms, mention that they may have overestimated the true prevalence of symptoms in the population, since the patients in the studies they included were likely to have moderate-to-severe disease that required hospitalization and therefore testing (Grant Id et al., 2020). Therefore, it can be said that the symptoms we determined in our study reflect more real rates compared to other studies.

The most common symptoms associated with COVID 19 are reported as sudden onset fever, cough and shortness of breath, myalgia, fatigue, and less frequently headache, diarrhoea and runny nose are among the symptoms (Adhikari et al., 2020; Wang et al., 2020; Xu et al., 2020b). The most common symptoms in a study were cough, malaise, taste disturbance, myalgia, and fever (Çalıca Utku et al., 2020). It is seen that the most common symptoms detected in our study are not very different from those found in previous studies.

Neurological involvement has been supported by case reports in the literature. Various neurological symptoms including central nervous system (CNS) involvement, peripheral nervous system involvement and skeletal muscle damage have been reported in more than one third of the patients (Acar et al., 2020). Therefore, headache may be a symptom caused by CNS (Lee et al., 2020). Indeed, headache was the first among the five most common symptoms in our study. In addition, taste and smell disorders are the most common complaints in patients with nervous system involvement (Finsterer and Stollberger, 2020). In our study, loss of smell (8.1%, 1st day) and taste (7.5%, 1st day) was observed in most of the patients, and it was determined that smoking increased the probability of loss of smell and taste.

In our study, it is seen that the symptoms seen in the first day of the disease in the patients continued the tenth day, albeit mildly. It is noteworthy that among these symptoms, cough and fatigue are the most common symptoms on both the first and tenth days. On the other hand, when we look at the studies, diarrhoea rates in patients vary as 21.7% (Çalıca Utku et al., 2020), 3.2% (J. Chen et al., 2020), 11.4% (Jin et al., 2020). In our study, diarrhoea rates decreased from 2.7% (1st day) to 0.3% (10th day), and it was detected at a lower rate compared to other studies. This change in diarrhoea rates may be due to geographical differences between countries and the mutation of the virus.

Age and underlying chronic conditions (or comorbidities) are thought to increase the risk of severe COVID 19 (Centers for Disease Control and Prevention, 2020). In our study, some symptoms were more common in certain age groups, and it was found that the possibility of fatigue increased with age. Until now, only a few demographic and clinical factors such as advanced age, diabetes, and cardiovascular diseases have been associated with poor outcome and increased mortality risk for COVID-19 (H. Chen et al., 2020; Xu et al., 2020b). However, most of the patients in our study were in the 19-40 age group, not advanced age. In addition, it was determined that most of the symptoms were also seen in this age group. Again, most of the participants (70.3%) in our study did not have a chronic disease, and it was determined that headache, sore throat, loss of smell and taste and diarrhoea were more common in patients without chronic disease. However, dyspnoea, nausea-vomiting, joint pain, and cough were more common in patients with chronic disease. These results are noteworthy in that they show that those under the age of 40, those with chronic diseases and those who do not have any additional disease can develop a high rate of COVID-19 symptoms. At the same time, one of the demographic factors, gender may also be an effective factor. In our study, most of the patients were women, and it was found that the symptoms of loss of taste, shortness of breath, nausea, vomiting, headache, joint pain, cough, and sore throat were more common in women. On the other hand, in a study in which COVID-19 symptoms were questioned with a limited number of participants (143 COVID-19 patients) and only for hospitalized patients, it was found that most patients were in the 55-74 age and the disease was more common in male (Çalıca Utku et al., 2020). The fact that the patients in our study were in the younger age group and it was more common in female may be that it included not only hospitalized patients but also all COVID-19 cases detected in a certain time period.

The limitations of our study can be listed as the fact that it was conducted with individuals who were found to be positive for COVID-19 only in a limited time of about two months, the interrogations were made verbally over the phone, so there was no one-on-one patient examination, and the information was obtained only from the family for the group under the age of 18.

Conclusion

In conclusion, most of the individuals who were found to be positive for COVID-19 in the period covered by our study were in the 19-40 age group, most of them were female, most of them were receiving outpatient treatment, most of them had no chronic disease and most of them were non-smokers. Headache, fever-chills, joint pain were the most common symptoms on the first day

when the test was positive, while cough, fatigue, and loss of smell were the most common symptoms on the tenth day of the disease. Fever, throat ache, nausea-vomiting, diarrhoea, and abdominal pain were in forefront in the 0-18 age group, while headache, joint pain, fatigue, cough, waist-back pain, loss of smell and taste and runny nose were in forefront in the 19-40 age group. Fever-chills were more common in male, while many of the other symptoms were more common in female. Shortness of breath was more common in hospitalized patients while many of the other symptoms were more common in outpatients. Headache, throat ache, loss of smell and taste, and diarrhoea were common in patients with no chronic disease. Cough, nausea-vomiting, and abdominal pain were predominant in non-smokers. As we found in our study, high rates of COVID-19 symptoms may also develop in young age group, in female, in have no chronic disease and in non-smokers. It may be advisable to test these individuals for the risk of COVID-19 in those who present with symptoms specific to that group that we reported in our study.

Declaration of Conflicting Interests

The Authors declare that there is no conflict of interest.

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