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ORIGINAL ARTICLE

Frequency of different symptoms in patients with COVID-19

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ABSTRACT

Background: COVID-19 is a wide spreading disease starts from Wuhan a city of China in east. Earlier symptoms include fever, cough and fatigue later on patients may present with loss of smell and taste, sore throat, nasal congestion and muscle or joint pain. Its long term effects may include respiratory distress and neurological symptoms.

Aim: To determine the frequency of different symptoms in patients with COVID-19 presenting at outpatients department of Nishtar Hospital Multan.

Methodology: This cross sectional study was conducted at department of medicine, Nishtar Medical University, Multan, from September 2020 to September 2021. This study was carried out on 200 patients presenting with symptoms of COVID-19 and diagnosis was confirmed after admission. Main variables of study were symptoms of COVID-19 like cough, fever, running nose, breathlessness, headache and palpitations. SPSS version 22 was used for data analysis.

Results: Majority of the patients were (60.0%) between age group 46-60 years. The most common symptoms were fever and cough, (79.0%) and (65.0%), respectively. The symptoms recorded between both male and female were almost equal, (standardized residuals<1.96 and p>0.05). But, fever and running nose were most common among the females, (p=0.028) and (p=0.050), respectively.

Conclusion: COVID-19 presents with variety of symptoms and fever and cough were most common among these symptoms. COVID-19 positive patients can be present asymptomatically. All persons who come into contact with COVID19 patients should be go through the PCR lab test.

Keywords: Novel COVID 19, Acute Respiratory Distress Syndrome, Contagious, Pandemic

INTRODUCTION

Corona virus is highly contagious RNA virus that has caused life threatening pandemic situation worldwide. Initially it is outbreak in 2019 in China with symptoms of pneumonia of unknown etiology and later on confirmed on investigations[1]. In the beginning it was labeled as 2019-nCoV and then SARS-CoV-2 means severe acute respiratory syndrome coronavirus-2[2]. Clinically and genetically it is similar to severe acute respiratory syndrome coronavirus-2 that why International Committee on Taxonomy of Virus designed its name as SARS CoV-2 virus[3].

After few weeks world health organization WHO renamed it on 11 February 2020 as COVID-19 (corona virus disease-2019). In March 2020 WHO confirmed its cases about 87,317 which were increased with the passage of days and weeks[4]. Out of these confirmed cases 2,977 cases about 3.42% have found with active disease[5]. Approximately 96.5% mortality rate was taken place in China and most of these cases about 92% have been found infected in China and its periphery. After few weeks 59 countries were involved and 76169 cases new cases were confirmed out of China[6].

In pandemic situation number of infected cases in different countries varies according to their population diversity and seriousness about the disease[7]. Some patients have only mild symptoms and only 6% were critically ill yet. Mortality rate due to COVID-19 is also varying country to country as WHO estimated overall 3% mortality among confirmed cases. Pakistan is also considered in highly affected countries because of China and trade relationships[8], while among western countries Italy considered as with highest mortality rate and Iran is second one. In Pakistan 1st case of COVID-19 was observed in 26 February 2020 in Karachi province of Sindh[9].

Mode of virus transmission is animal to human and human to animals with incubation period of 5-6 days[10]. Clinical presentation of virus infection is different and varies from asymptomatic to mild upper respiratory infection and severe viral pneumonia consists of respiratory failure and ultimately leading to death[11]. It can attack any part of body but becomes worse in lungs and observed in chest symptoms about 10% of cases. Initially it is observed with pneumonias and later on acute respiratory distress syndrome[12].

METHODOLOGY

Study was carried out at medicine department of Nishtar Hospital, Multan, from September 2020 to September 2021 in one year. Study was started after ethical approval from hospital ethical board and obtaining informed written consent from patients. Non probability consecutive sampling technique was used for collection of sample size. For this study COVID 19 positive patients were reached who were visiting hospitals outpatient department. Sample size consist of both genders age group ranges between 25-75 years. The patients were asked to list out their symptoms in survey form.

All the patients were diagnosed and confirmed as COVID 19 positive. Pregnant women and patients with other disease history such as cancer, hepatitis B or C and chronic renal failure were excluded from the data. Pre-designed questionnaire was used for data collection. The total participants diagnosed with COVID 19 are demonstrated by their rate of recurrence and percentage with 95% confidence interval.

SPSS version 22 was used for analysis of study data. Mean and standard deviation were calculated and presented for quantitative variables like age of patients and frequency percentages (%) were calculated for categorical variables like gender and symptoms of COVID-19 (cough, fever, sore throat, running nose, body aches, breathlessness, palpitations and headache. Test of significance (chi square test) was applied to see association among variables. P value less than or equal to 0.05 was taken as significant.

RESULTS

Two hundred covid-19 positive patients were included in this study in which male (56.5%) and female (43.5%). The mean age of the patients was 54.68±8.43 years. Majority of the patients were (60.0%) between age group 46-60 years. The most common symptoms were fever and cough, (79.0%) and (65.0%), respectively (Table. I).

The symptoms recorded between both male and female were almost equal, (standardized residuals<1.96 and p>0.05). But, fever and running nose were most common among the females, (p=0.028) and (p=0.050), respectively. (Table. II).

In age groups 46-60 years and >60 years, the all the symptoms were the most common as (p<0.050), except body aches and headace (p<0.050). Furthermore, fever and sore throat were statistically more common in age group 31-45 years. While, no symptoms was statistically more common in age group 20-30 years, (standardized residuals>1.96).(Table. III).

Table-I: Demographic and symptoms recorded among the patients

Variable	N (%)
Gender	
Male	113 (56.5)
Female	87 (43.5)
Age distribution (years)	
20-30	1 (0.5)
31-45	28 (14.0)
46-60	120 (60.0)
>60	51 (25.5)
Symptom	
Cough	130 (65.0)
Fever	158 (79.0)
Sore Throat	75 (37.5)
Running Nose	70 (35.0)
Body aches	68 (34.0)
Breathlessness	72 (36.0)
Palpitation	50 (25.0)
Headache	62 (31.0)
No symptoms	28 (14.0)

Table-II: Standardized residual analysis between symptoms and gender

Symptoms	Gender		P-value
	Male, N (%)	Female, N (%)	
Cough	70 (61.9)	60 (69.0)	0.302
Fever	83 (73.5)	75 (86.2)	0.028
Sore Throat	44 (38.9)	31 (35.6)	0.632
Running Nose	33 (29.2)	37 (42.5)	0.050
Body aches	34 (30.1)	34 (39.1)	0.183
Breathlessness	43 (38.1)	29 (33.3)	0.491
Palpitation	26 (23.0)	24 (27.4)	0.459
Headache	35 (31.0)	27 (31.0)	0.993
No symptoms	15 (13.3)	13 (14.9)	0.736

Table-III: Standardized residual analysis between symptoms and age

Symptoms	Age (years)				P-value
	20-30, N (%)	31-45, N (%)	46-60, N (%)	>60, N (%)	
Cough	1 (100.0)	11 (39.3)	76 (63.3)	42 (82.4)	0.001
Fever	1 (100.0)	11* (39.3)	103 (85.8)	43 (84.3)	0.000
Sore Throat	0 (0.0)	2 *(7.1)	46 (38.3)	27 (52.9)	0.001
Running Nose	1 (100.0)	4 (14.3)	42 (35.0)	23 (45.1)	0.024
Body aches	1 (100.0)	7 (25.0)	39 (32.5)	21 (41.2)	0.236
Breathlessness	1 (100.0)	5 (17.9)	41 (34.2)	25 (49.0)	0.021
Palpitation	1 (100.0)	2 (7.1)	29 (24.2)	18 (35.3)	0.014
Headache	1 (100.0)	5 (17.9)	37 (30.8)	19 (37.3)	0.143
No symptoms	1* (100.0)	3 (10.7)	12 (10.0)	12 (10.0)	0.008

Column wise percentage is calculated
*standardized residual>1.96

DISCUSSION

All of the patients admitted were confirmed positive with COVID-19. Fever followed by cough was the most common symptoms found in our 158 and 130 patients which is 79% and 65% of total sample size. However, 28 patients do not show any sign of fever. These results are different from the studies done by Miller R[13] and Guan W et al[14] they were reported that, the cough followed by fever were most common symptoms found in 110 patients which is 73% of total patients while near to our study results reported by Zhou et al[15] in which fever was major complication followed by cough (94% and 79%) respectively, and also Chen N[16]Arentz M et al[17] and Kim ES et al[18] were reported similar results which compliance our study findings. Additionally we observed cough was early and more common to appear in female patients; in males fever was early and most common symptom. While 28 patients from both genders shown no symptoms at all although their test was positive.

The following pattern of symptoms was observed in different age groups; patients between 46-60 years of age experienced fever as most common symptom (85.8%) while cough was second common symptom (63.3%) in this group. Cough and fever was most commonly observed in patients of 31-45 years of age with 39.3%. While runny nose found in patients between 20-30 years of age; no one in this group experienced cough as first symptom. Patients who were above 60 years of age experienced cough and fever more frequently. Breathing difficulty was not mentioned by any age group as early symptom.

These finding are in consistent with Rodriguez-Morales AJ et al[19] and Wang X et al[20]. As discussed above there no certain symptoms of COVID-19, as they differ with age and gender. However, fever and cough were most frequent in most of the patients. The same is also observed by Cummings MJ[21] et al. So it is imperative to conduct PCR test in patients who are suspected of viral exposure, to verify the presence of virus in their body.

As some of our patients did not show any symptoms initially and were diagnosed during screening process. More essentially, as COVID-19 is most contagious it is highly recommended to go for the test instead of relying on symptoms or clinical examinations due to difficulty in conclusive evidence and variation in symptoms.

Residence in remote areas, psychological impact, lack of awareness and refusal from consent are main limitations of our study. Studies on larger scale are recommended because COVID-19 is still spreading and patients presenting with varying symptoms. Comparative studies with other respiratory disease and their symptoms like asthma, pulmonary tuberculosis are also recommended to distinguish symptoms of COVID-19 which may helpful for physicians in making differential diagnosis.

CONCLUSION

Results of this study reveal that COVID-19 presents with variety of symptoms and fever and cough were most common among these symptoms. COVID-19 positive patients can be present asymptomatically. All persons who come into contact with COVID19 patients should be go through the PCR lab test.

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