

PREVALENCE AND DURATION OF LOSS OF SMELL AND TASTE IN COVID-19 PATIENTS

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ABSTRACT

Background: The COVID-19 (Corona virus disease 2019) outbreak due to severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is an infectious disease intimidating the world. The COVID-19 common symptoms include cough, fever, malaise, dyspnea, myalgia and gastrointestinal disturbances. The loss of smell and taste has also been reported among patients with COVID-19.

Objective: The objective of the study is to assess the prevalence and duration of loss of smell and taste among COVID-19 patients.

Methods: It was a cross-sectional study in which 150 COVID-19 patients were included. The enrolled patients answered a questionnaire at 14th (or more) days after confirmed infection. The patients' responses were received online on data form and entered into computer software SPSS version 22.0. Frequencies and percentages were calculated and data was presented in tables and figures.

Results: Out of 150 patients, 48.0% were 20-30 years old and 56.0% were male. Majority (82.0%) of patients experienced loss of smell and taste during COVID-19. 57.0% patients had lost smell and taste sense completely. 52.0% patients experienced smell and taste issues after other symptoms of COVID-19. Among 43.9% patients, the duration of these issues was more than 10 days. There were 30.1% patients who used any medicine or local remedy for COVID-19 treatment.

Conclusion: Study concluded that loss of smell and taste was prevalent among patients with COVID-19 while duration was more than 10 days for most of the patients.

Keywords: COVID-19, prevalence, duration, loss of smell, loss of taste, patients.

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INTRODUCTION

The COVID-19 infection resulting from SARS-CoV-2,^[1-5] initially presented in Wuhan (a city of China) during the month of December 2019 and has rapidly

spread all over the globe.^[1,6] On 30 January, 2020, the WHO (World Health Organization) announced coronavirus disease 2019 outbreak as 6th PHEIC (public health emergency of international concern) while on 11 March, 2020, World Health Organization declared coronavirus disease 2019 as an epidemic.^[7] SARS-CoV-2 is extremely adjusted to the humans and able to transmit the infection from one person to other efficiently. From 31 May 2020, this disease has infected more than 5.9 million individuals globally; with greater than 360,000 mortalities associated with disease.^[8] The World Health Organization assessed COVID-19 global risk as extremely elevated. During the coming days/weeks, the frequency of cases, mortalities, and affected states is estimated to increase sharply.^[7]

Like other world countries, Pakistan is also being faced by complex and unprecedented COVID-19 burden.^[9] The COVID-19 first case was reported on 26 February 2020 from Karachi (Pakistan), with anticipated 204.65 million population of country being susceptible. Consequently, corona virus spread to several districts nationwide and presently has become endemic. On 10 April 2020, during 45 days, 4601 corona virus confirmed cases were recorded in the country. Among these patients, 727 have recovered while 66 patients have died.^[7]

The range of patients positive with COVID-19 differs from symptom free to the patient on a ventilator and finally death.^[10] Also the patients with no symptoms have become an authentic cause of spreading infectivity.^[11] To control the epidemic fast diagnosis, useful screening and isolation of infected persons are necessary. These actions need sound knowledge regarding clinical presentation of disease.^[12]

COVID-19 has several clinical symptoms. In a typical case, fever occurs with dry cough; among few cases, viral pneumonia progresses and develops, causing difficulty in breathing. In COVID-19 patients general symptoms comprise dry cough, fever, dyspnea, confusion, myalgias, sore throat, chest pain, headache, rhinorrhea, conjunctival congestion, nausea/vomiting, diarrhea, nasal blockage, fatigue, sputum production, chills and hemoptysis.^[13]

The outbreak of COVID-19 is a persistently growing situation with novel indications and predictive factors frequently emerging. A symptom that has currently been frequently reported among patients with COVID-19 across Asian and European countries is anosmia (loss of smell) and ageusia (loss of taste). Also, a few patients have stated dysgeusia which is referred to as a taste change in mouth.^[14]

Case as well as media reports from numerous countries such as China, France, South Korea, Germany, Italy and most currently United Kingdom signify that an important number of confirmed COVID-19 patients have complained anosmia and a working mechanism regarding viral infection of SARS-CoV-2 leading to loss of smell has been assumed somewhere else. Furthermore, there has been an increasing number of reports highlighting that several patients face anosmia problem without other symptoms as well.^[15]

A study carried out among 10,818 patients with COVID-19 found that the frequency of anosmia and ageusia was 74.8 percent and 81.6 percent, respectively. Both taste and smell significantly relate as the persons who cannot smell mostly can also not taste.^[16] The World Health Organization, during April 2020, together with several EU states, Australia and America included

loss of smell and taste as a major symptoms of COVID-19, while Govt. of United Kingdom included it to list of COVID-19 systems on 18 May 2020.^[17]

No much data is available regarding prevalence, duration and severity of these disorders among COVID-19 patients.^[18] Therefore current study aims to assess the prevalence and duration of loss of smell and taste among COVID-19 patients.

METHODS

It was a cross-sectional study conducted from 20 May 2020 to 20 June 2020. Patients answered a questionnaire after 14th (or more) days after confirmed infection. The questionnaire consisted of eight questions including general demographic information (age, gender), prevalence, duration, severity and treatment of loss of smell and taste. The study was approved by the ethical committee of hospital, and informed consent was obtained verbally from patients to provide responses online on data form. The data received online was entered into computer software SPSS (Statistical Package for the Social Sciences) version 22.0. Frequencies and percentages were calculated and data was presented in tables and figures.

RESULTS

Table-1 exhibits that out of 150 patients, 72 (48.0%) were 20-30 years old, 39 (26.0%) were 31-40 years old and 33 (22.0%) patients were 41-50 years old while only 6 (4.0%) patients were more than 50 years old.

Table-2 highlights that among these patients, 84 (56.0%) were male and 66 (44.0%) were female patients.

Table-3 describes that among 150 patients, majority 123 (82.0%) experienced loss of smell and taste during COVID-19 while 27 (18.0%) patients did not experience.

Table-4 demonstrates that among 123 patients who had lost smell and taste problem, 70 (57.0%) had lost smell and taste sense completely while 53 (43.0%) had lost partially.

Table-5 indicates that among 123 patients, 17 (13.8%) experienced smell and taste issues before other symptoms of COVID-19 and majority 64 (52.0%) after other symptoms while 42 (34.2%) during/with other symptoms.

Table-6 depicts that for 27 (22.0%) patients duration of these issues was 4 to 5 days, for 20 (16.2%) patients duration was 5 to 7 days and for 22 (17.9%) patients it was 7 to 10 days while for majority 54 (43.9%) of patients, the duration of these issues was above 10 days.

Table-7 asserts that among 123 patients, only 5 (4.1%) had smell or taste issues before COVID-19 while significant majority 118 (95.9%) had no such issues before COVID-19.

Table-8 shows that among 123 patients, 37 (30.1%) had used medicine or local remedy for COVID-19 while majority 86 (69.9%) of patients replied in negative.

Table-1: Distribution of COVID-19 patients according to age

	Frequency	Percent (%)
20-30 years	72	48.0
31-40 years	39	26.0
41-50 years	33	22.0
Above 50 years	6	4.0
Total	150	100.0

Figure-1: Distribution of COVID-19 patients according to age

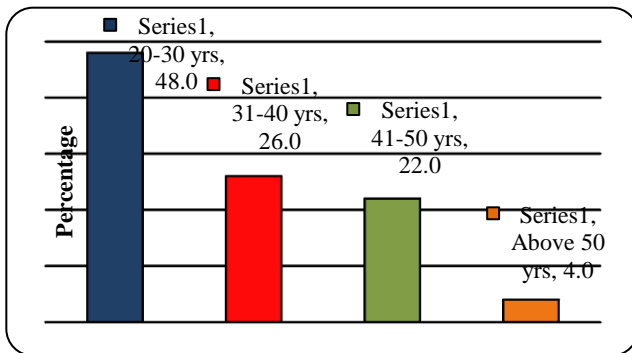


Table-2: Distribution of COVID-19 patients according to gender

	Frequency	Percent (%)
Male	84	56.0
Female	66	44.0
Total	150	100.0

Table-3: Distribution of patients who experienced loss of smell and taste during COVID-19

	Frequency	Percent (%)
Yes	123	82.0
No	27	18.0
Total	150	100.0

Table-4: Distribution of patients who lost smell and taste sense completely or partially

	Frequency	Percent (%)
Completely	70	57.0
Partially	53	43.0
Total	123	100.0

Table-5: Distribution of patients who experienced smell and taste issues before or after other symptoms of COVID-19

	Frequency	Percent (%)
Before other symptoms	17	13.8
After other symptoms	64	52.0
During/with other symptoms	42	34.2
Total	123	100.0

Table-6: Distribution of patients according to number of days these issues persist

	Frequency	Percent (%)
4 to 5 days	27	22.0
5 to 7 days	20	16.2
7 to 10 days	22	17.9
More than 10 days	54	43.9
Total	123	100.0

Figure-2: Distribution of patients who experienced loss of smell and taste during COVID-19

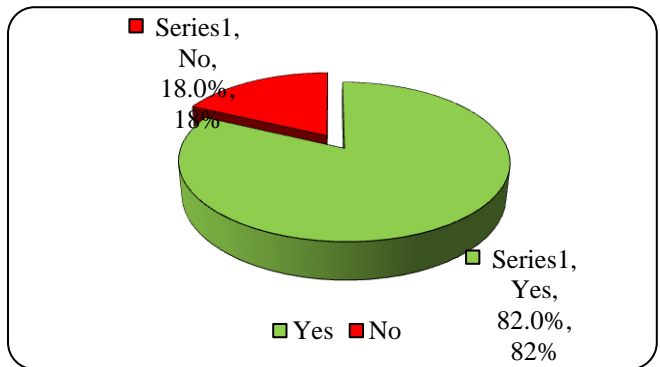


Figure-3: Distribution of patients according to number of days these issues persist

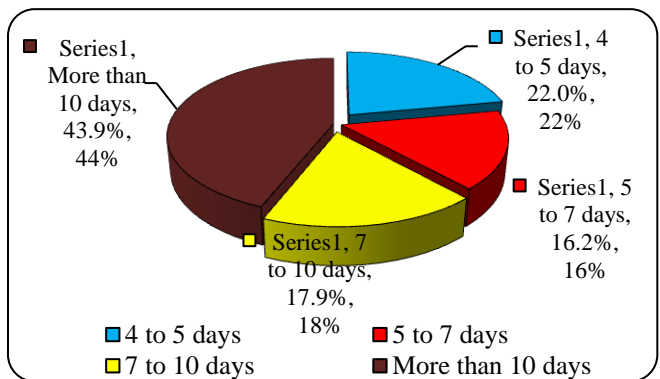


Table-7: Distribution of patients who had smell or taste issues before COVID-19

	Frequency	Percent (%)
Yes	5	4.1
No	118	95.9
Total	123	100.0

Table-8: Distribution of patients who used medicine or local remedy for COVID-19

	Frequency	Percent (%)
Yes	37	30.1
No	86	69.9
Total	123	100.0

DISCUSSION

Rapidly growing COVID-19 pandemic is a leading public health problem that has threatened the people all over the world. Current study assessed the prevalence and duration of loss of smell and taste among COVID-19 patients. To obtain accurate outcomes, a group of 150 coronavirus patients was included in the study and found that disease was prevalent among majority of patients (74.0%) who were 20-40 years old, while rest of the COVID-19 patients (26.0%) were above 40 years old. The results of our study are comparable with a study carried out by Chung et al. (2020) who also confirmed that majority of COVID-19 patients (78.0%) were 20-40 years old and 22.0% were more than 40 years old.^[8] Study further revealed that disease was more prevalent among male (56.0%) than female (44.0%) patients. Similar results were also reported by a study undertaken by Abid and coworkers (2020) who asserted that most of the patients (71.8%) were males and only 28.2% were females.^[7] But another study conducted by Lechien and associates (2020) showed different scenario that females patients were in majority (63.1%).^[5]

When patients were evaluated regarding loss of smell and taste during COVID-19, study disclosed that major proportion (82.0%) of patients had loss of smell and taste problem. The findings of a study performed by Agyeman and colleagues (2020) indicated that due to COVID-19, 41.0% patients had loss of smell and 38.2% patients had loss of taste.^[12] But the study done by Lechien and associates (2020) demonstrated that 85.6% patients had loss of smell and 88.0% had loss of taste issue.^[5] Chung et al. (2020) asserted in their study that 67.0% patients had loss of smell problems.^[8] The findings of our study showed that among the patients who had loss of smell and taste problem, 57% had

complete and 43% had partial loss of smell and taste sense.

The disease is new and the loss of smell and taste problem is currently being observed among patients with COVID-19. Study revealed that 13.8% patients experienced smell and taste issue before other symptoms and majority (52.0%) after other symptoms while 34.2% patients experienced during/with other symptoms of COVID-19. The findings of a study conducted by Spinato and team mates (2020) highlighted that among COVID-19 patients, 11.9% experienced smell and taste issue before other symptoms, 26.7% after other symptoms and 22.8% patients experienced during/with other symptoms of COVID-19.^[2]

During study the duration of loss of smell and taste was also assessed among COVID-19 patients and found that 22.0% patients had these issues for 4-5 days, 16.2% patients for 5-7 days and 17.9% patients for 7-10 days while majority (43.9%) had these issues for more than 10 days. The findings of a similar study carried out by Lechien and associates (2020) indicated that 33.0% patients had loss of smell and taste problem for <4 days, 39.6% patients for 5-8 days and 24.2% patients for 9-14 days while 24.2% patients had these issues for more than 14 days.^[5]

It is believed that patients with COVID-19 face loss of smell or taste problem, so finding of our study also confirmed that significant majority of patient had no such problem before the onset of disease except for five patients. Study also reported that only 30.1% patients used medicines or local remedy for the treatment of COVID-19. The findings of our study are comparable with a study undertaken by Lechien and associates (2020) who also confirmed that only 29.8% patients treated the problem with medicines.^[5]

CONCLUSION

Study concluded that loss of smell and taste was prevalent among patients with COVID-19 while duration was more than 10 days for most of the patients. The disease is new; hence, further studies are needed to assess the prevalence and duration of loss of smell and taste among patients with COVID-19.

ETHICAL APPROVAL

The study was approved by the Ethical Review Committee of Postgraduate Medical Institute, Ameer ud Din Medical College, Lahore General Hospital, Lahore, Pakistan, Vide reference No. AMC/PGMI/LGH/Article/Research No./00-157-20, dated July 23, 2020.

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AUTHORS' CONTRIBUTION:

MAK, RKA: Literature search, study design and concept, questionnaire design, data collection, data analysis

MI: Manuscript writing, editing

KW: Data collection, editing

MI: Literature search

SMW, MAF: Data collection

WA: Proof Reading, Data collection

MT: Supervision