



## Original Research Article

## Impact of COVID-19 pandemic on the utilization of OPD services of a tertiary dental care centre in New Delhi, India

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## ABSTRACT

**Background:** In March 2020, there was COVID-19 pandemic outbreak in India with the second wave entering in April 2021. This hampered the day to day life of most of the people. Patients visiting the Dental OPDs were reduced. This retrospective analysis assessed the effect of COVID-19 on the demographics and complaints of patients visiting the dental OPD.

**Aim:** To assess how the current COVID-19 pandemic has influenced the utilization of OPD services by patients in a tertiary care centre in New Delhi.

**Materials and Methods:** This was a retrospective study. The data (August 2020 to February 2021) of patients visiting the Dental OPD of Faculty of Dentistry, Jamia Millia Islamia was retrieved and analyzed. 4909 patients visited the OPD with various complaints. Their demographic characteristics, reasons for visiting and treatment rendered were analyzed.

**Results:** Out of 4909 patients visiting the dental OPD almost equal males (49.9%) and females (50.1%) visited. The mean age of the patients was 32.84±16.12 years. Caries and pain were the main chief complaints. 31% had caries and 22% had pain. 33.7% had endodontic problems and 24.8% had periodontal problems. Only 5% pediatric patients visited the OPD. 45% patients were medicated and 26.6% were referred to a higher centre.

**Conclusion:** Within the constraints of this study, we found that most of the patients visited the dental OPD only if they had endodontic problems like pain and caries.

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## 1. Introduction

In December 2019, there was an unprecedented outbreak of pneumonia cases in Wuhan city, China whose etiology was unknown. Later, the cause of the infection was identified as novel coronavirus (2019-nCoV, or COVID-19). It presented with symptoms like fever, difficulty in breathing, cough, and invasive lesions on both lungs of the patients.<sup>1</sup> Despite rigorous global containment and

quarantine efforts, the incidence of COVID-19 continues to rise.<sup>2</sup> In addition, studies have shown that respiratory viruses can be transmitted from person to person through direct or indirect contact, or through coarse or small droplets, and 2019-nCoV can also be transmitted directly or indirectly through saliva.<sup>3</sup> Most of the dental procedures produce aerosols and droplets that are contaminated with bacteria, viruses and other micro-organisms which have the potential to spread infection to the dental personnel.<sup>4</sup> Because of the rapid spread and high transmissibility and contagion people have a fear to go to public and crowded

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places that include hospitals and dental care centers. It is a challenge for the dental care hospitals/ institutions to make amendments according to the new protocols laid down because of the Covid 19 pandemic so that the patients are able to utilize the oral care services.

This study aims to assess how the Covid-19 pandemic has influenced the people to utilize the outpatient services of a tertiary dental care center in New Delhi.

## 2. Materials and Methods

A retrospective analysis was conducted of the data retrieved from the hospital records of the outpatient department of Faculty of Dentistry, Jamia Millia Islamia. This data was collected from the records maintained during the Covid-19 pandemic (August 2020 to February 2021) when a separate triage area was set up for the dental OPD services. This tertiary care center functions as a specialty hospital with different departments for each dental specialty. The patient's demographic characteristics, reasons for visiting and the treatment advised were recorded.

Data was entered into MS Excel, and further cleaned and coded. Data was analysed in SPSS V.20 for descriptive analysis. Categorical variables were presented as percentages  $n$  (%) while continuous variables were expressed as mean  $\pm$  standard deviation.

## 3. Results

There were 4909 patients included in the present study, out of which 2458 (49.9%) were males and 2451 (50.1%) were females. The demographic characteristics of the patients are shown in Tables 1 and 2. The mean age of the patients was  $32.84 \pm 16.12$  years. 2625 (53.6%) patients were young adults between the age group of 20-44 years. Senior citizens avoided to visit the center, only 343 (7.0%) patients were above the age of 60 years.

**Table 1:** Distribution of cases according to age. (N = 4899)

Age Groups	Number of cases (%)
Less than 12 years	456 (9.3)
13 – 19 years	577 (11.8)
20 – 44 years	2625 (53.6)
45 – 59 years	898 (18.3)
More than 60 years	343 (7.0)
Mean (SD)	32.84 (16.12)
Range	2 - 92

**Table 2:** Distribution of cases according to sex. (N = 4909)

Sex of the Patient	Number of cases (%)
Male	2458 (49.9)
Female	2451 (50.1)

emonstrates the chief complaints with which the patients had visited the dental tertiary care center. Caries and pain were the main chief complaints 1460 (31.2%) patients had caries and 1032 (22%) patients had pain as their chief complaints. Only 5 (0.1%) patients complained of reduced mouth opening. 6 (0.1%) patients complained of receding gums and jagged teeth.

**Table 3:** Distribution of cases according to chief complaint of the patient. (N = 4680)

Chief Complaint	Number of cases (%)
Abscess	100 (2.1%)
Attrition	14 (0.3%)
Bleeding	112 (2.4%)
Orthodontics	104 (2.2%)
Caries	1460 (31.2%)
Cleaning	17 (0.4%)
Malaligned Tooth	85 (1.8%)
RCT/Crown Issue	62 (1.3%)
Denture Issue	20 (0.4%)
Discoloration/Deposits	51 (1.1%)
Dislodged Restoration	155 (3.3%)
Edentulous Arch	54 (1.1%)
Extraction	35 (0.7%)
Food Impaction	34 (0.7%)
Fracture	86 (1.8%)
Gingivitis	139 (3.0%)
Halitosis	20 (0.4%)
Impacted Tooth	32 (0.7%)
Jagged Tooth	6 (0.1%)
TMJ Pain	23 (0.5%)
Malocclusion	87 (1.9%)
Mobile Teeth	128 (2.7%)
Reduced mouth opening	5 (0.1%)
Pain	1032 (22.0%)
Pain and Swelling	45 (1.0%)
Swelling	94 (2.0%)
Periodontitis	115 (2.5%)
Pericoronitis	56 (1.2%)
Pus Discharge	13 (0.3%)
Pocket	9 (0.2%)
Receding Gums	6 (0.1%)
Tooth Restoration	153 (3.3%)
Routine/Follow-up Visit	39 (0.8%)
Sensitivity	220 (4.7%)
Trauma	39 (0.8%)
Ulceration	30 (0.6%)

The distribution of cases according to the concerned department is presented in Table 4. 1330 (37%) patients were recalled for the department of conservative dentistry and endodontics and 890 (24.8%) patients were recalled for the department of Periodontics.

The treatment advised is shown in table 5. Only 1 (0.02%) patient required an emergency extraction. 2118 (45%) patients were advised medication and recalled after

**Table 4:** Distribution of cases according to the concerned department they sought. (N = 3594)

Concerned Department	Number of cases (%)
Conservative dentistry and endodontics	1330 (37%)
Oral surgery	313 (8.7%)
Orthodontics	246 (6.8%)
Pedodontics	181 (5.0%)
Periodontics	890 (24.8%)
Prosthodontics	216 (6.0%)
Oral medicine and dental radiology	427 (11.83%)

the routine services were resumed. 1253 (26.6%) patients were referred to the concerned department for treatment.

**Table 5:** Distribution of cases according to treatment administered. (N = 4709)

Treatment Administered	Number of cases (%)
Advised Medication	2211 (47.0%)
Prophylaxis/Toothpaste	253 (5.4%)
Mouthwash/Warm saline rinse	112 (2.4%)
Emergency extraction	1 (0.02%)
OPG/X-ray	482 (10.2%)
Extraction	86 (1.8%)
RCT	7 (0.1%)
Follow-up	248 (5.3%)
Referral	1253 (26.6)
Restoration	51 (1.1%)
Denture Placed	4 (0.1%)

#### 4. Discussion

This retrospective study applies descriptive analysis to the data retrieved from the tertiary dental care center records during the Covid-19 pandemic and presents the significant findings of the pattern of utilization of dental services in the OPD. There has been no such study being done till date so we don't have any data for comparison. Only one study has been done by Guo et al (2020).<sup>5</sup> They have studied the impact of Covid-19 pandemic on utilization of emergency dental care services. They reported 38% fewer patients visited the dental urgency at the beginning of the COVID-19 epidemic than before. The distribution of dental problems has changed significantly. The proportion of dental and oral infection raised from 51.0% of pre-COVID-19 to 71.9% during COVID-19, and dental trauma decreased from 14.2% to 10.5%. Meanwhile, the non-urgency cases reduced to three-tenths of pre-COVID-19.

A questionnaire based study<sup>6</sup> on the utilization of dental care services reported that the main reason for patients' visit included orthodontic treatment (28.4%), followed by dental pulpal lesion (17.3%) and tooth extraction (11.9%) that is different from the results of our study.

In the present study, pain (22%) and caries (31.2%) were the main reasons for patients to visit the dental OPD.

Mostly young adults visited the OPD whereas there was no significant difference in the number of males and females visiting the dental OPD. 45% of the patients were advised medication and 26% were referred for treatment to the concerned department.

#### 5. Conclusion

Within the constraints of the study, it was concluded that even though there were fears regarding visiting the dental OPDs, patients still visited for their acute problems like pain and caries.

#### 6. Source of Funding

None.

#### 7. Conflict of Interest

None.

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