

Patient Satisfaction of Dental Procedures in Covid-19 Pandemic: A Mixed Method Survey in a Tertiary Care Dental Hospital

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ABSTRACT

Objective: To evaluate the patient satisfaction after receiving aerosol generating procedures in a dental setting during COVID-19 pandemic. Secondly to investigate the patient's point of view regarding their experience of dental hospital.

Study Design: Mixed method cross sectional descriptive study

Place and Duration of Study: This study was conducted at the University Dental Hospital, affiliated with University College of Dentistry, The University of Lahore from 17th Jan, 2022 to 18th Feb, 2022.

Materials and Methods: A survey using a self-administered questionnaire was conducted in a tertiary care dental hospital patients who gave consent to participate in the study. Participants expressed their responses in a 5 point Likert scale. SPSS version 24 was used to analyze the results and chi-square test was applied for intergroup comparison.

Results: A total of 99 patients participated in the study out of which 48% patients were 18-25 years old, 33% were 26-40 years old, 12% 41-55 years old and 7% were ≥ 55 years. 56% were female and 44% were male. Most affirming positive responses were obtained for body temperature screening at the entry point, professional and caring attitude of doctors and feeling comfortable while visiting dental hospital. All these statements got more than 50% response rate as strongly agree.

Conclusion: It can be concluded that majority of the patients who received aerosol generating procedures from dental clinic were satisfied with the SOPs and the professional attitude of the dentists and the support staff.

Key Words: patient satisfaction, dental procedures, COVID-19

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INTRODUCTION

COVID-19 pandemic was much more than a global health crisis of our time and the biggest challenge faced by the world since World War II, according to United Nations Development Program(UNDP) to control the spread of COVID-19, some SOPs and protocols were introduced, including worldwide lockdown and closure of all the dental clinics/hospitals.¹

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The psychological well-being of people was affected due to the disturbance in their social, economic and environmental peace.² Different measures were taken to avoid the spread of this infection such as hand hygiene practice, social distancing, body temperature monitoring and use of face masks.³

During the earlier shutdown in 2020, dentists around the world coped with COVID-19 by the use of tele-dentistry to provide virtual care to the patients in need of dental treatments⁴. Tele-dentistry is a combination of telecommunication and dentistry, involving the exchange of clinical information and images with the patients for diagnosis and treatment planning of their dental problems. This includes mobile health technology and online dental consultation,³ and the use of mobile phones, photos and videos to facilitate delivery of oral healthcare and oral health education services⁴.

Elective procedures were deferred during COVID-19 pandemic. In case of dental emergency when patients arrived at dental hospital, COVID-19 screening was done, if any symptom of COVID-19 was found treatment was delayed and medication was prescribed (if possible) till the symptoms disappeared.³

Kamran et al 2021 did a cross-sectional study in which they found that most of the dentists were afraid of getting infected and a lot were anxious while providing dental treatment because of COVID-19 being life threatening condition. 78% of dentists were avoiding aerosol generating procedures (AGP).⁵

Multiple studies have been conducted since the start of the pandemic to evaluate the patients' satisfaction towards tele-dentistry. A study conducted in the UK to evaluate the response of both patients' and dentists' concluded that tele-dentistry was perceived positively and it helped patients get the necessary consultation while giving dentists a chance to avoid unnecessary contact where possible.⁶ Similarly, another study performed to evaluate the usage of tele-dentistry as means of follow-up visits after specific oral surgery cases concluded that tele-dentistry can be as effective as in-person follow up visits.⁷

However, in the developing countries like Pakistan, general public is not geared up for such technology based interaction with healthcare professionals and rely mainly on hospital/clinic visits despite some fear of COVID-19 spread.⁴ In order to minimize the spread of virus and also get the desired dental treatment; policy makers, hospital administration and health care workers (HCW) must look into the parameters which keep the safety of HCW and enhance patient satisfaction of dental procedures especially the aerosol generating procedures. Such information will help the providers to uplift the standard of healthcare while also generating the revenue for the hospital. Nonetheless the Government of Pakistan has issued return to work guidelines for providing dental care in COVID-19 pandemic but there is a paucity of local data on patient satisfaction with respect to aerosol generating dental procedures in a hospital setting for government of Pakistan or similar bodies to look forward to while updating the guidelines in future.⁸

Aims and objectives of this study was to evaluate patient satisfaction after receiving aerosol generating procedures in COVID-19 pandemic. Secondly to investigate the patient's point of view regarding their experience of Dental Hospital.

MATERIALS AND METHODS

Approval from IRB of University College of Dentistry, The University of Lahore was taken (Ref # UCD /ERCA/21/11ka). A self-administered questionnaire was used in this cross-sectional study; all the statements

were content validated through a group of 6 subject experts. First the questionnaire was translated into Urdu language and then back translated into English language. Initially there were 10 statements in the questionnaire after validation one statement was removed and one statement was edited. 3 open ended questions were added for the qualitative input from the patients so that any other aspect skipped in the questionnaire could be addressed.

Questionnaires were given to the patients who were willing to participate in this study from 17th Jan, 2022 to 18th Feb, 2022.

A questionnaire of 9 statements was formulated out of which 6 were in forward coding and remaining three questions (number 3, 5, and 6) were in reverse coding as the statements are negative in nature as compared to other statements. Furthermore, it allows the participant to carefully read the statements and discourages a particular trend while filling the survey tool.

Inclusion criteria includes patients who could comprehend English and Urdu language, patients who got AGP (scaling and polishing) done and patients who gave consent. Exclusion criteria included patients not giving consent and patients who were unable to understand language.

SPSS version 24 was used to analyze the results and chi-square test was applied for intergroup comparison. A total satisfaction score was calculated by multiplying 5 as the highest possible score given to each statement. This resulted in the total score ranging from 9 which showed dissatisfaction to score of 45 as the highest satisfaction.

RESULTS

A total of 99 patients participated in the study out of which 48% patients were 18-25 years old, 33% were 26-40 years old, 12% 41-55 years old and 7% were ≥ 55 years. 56% were female and 44% were male. 71% patients had ≤ 2 visits and 29% patients had ≥ 2 visits. 72% patients had less than bachelors degree and 28% patients were either graduate or more educated. Treatment of 48% patients was completed. Treatment was on-going for 38% and 12% of patients were on routine follow-up.

There were 9 statements and the answers were divided into 5 different categories of Likert scale, (strongly disagree, somewhat disagree, neutral, somewhat agree and strongly agree).

Table No. 1: Patients' responses to quantitative questions.

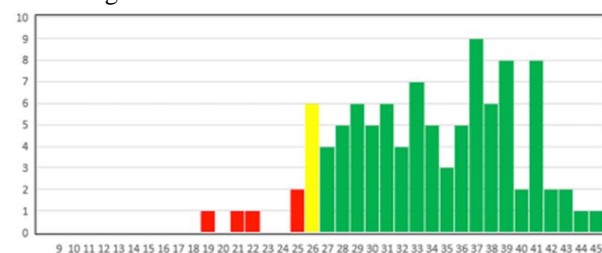
Statements	S.A.	A	N	D	S.D.
Body temperature screening was practiced at entry point of hospital	69.7%	13.1%	8.1%	6.1%	3%
There was availability of enough seats in the waiting area with distancing according to COVID-19 SOPs	37.5%	17.2%	14.1%	22.2%	9.1%
Patients were crowded at out- patient department where initial examination was carried out	20.2%	29.3%	19.2%	22.2%	9.1%

The doctors and paramedics were trained enough regarding COVID-19 screening and were following SOPs	46.5%	18.2%	23.2%	9.1%	2%
The wait to get the procedure done was longer than expected	19.2%	30.3%	25.2%	9%	16.1%
During the procedure, you noticed breach of cross infection protocol by dentist or dental assistant	15.1%	14.1%	14.1%	21.2%	35.3%
The doctors showed professional and a caring attitude towards you	62.6%	21.2%	10.1%	1%	5%
You felt comfortable visiting the hospital even in the time of COVID-19 pandemic	51.5%	14.1%	22.2%	9.1%	3%
You would recommend your friends to get their dental treatment from here	47.5%	20.2%	14.1%	9.1%	3%

S.A.: Strongly Agree, A: Agree, N: Neutral, D: Disagree, S.D.: Strongly Disagree

Qualitative Data: There were 3 open ended questions for qualitative input. Their statements were then ordered according to the frequency of responses. “Most” was labelled if the response theme was more than 50%, “some” was labelled when the response theme was between 25-50% and less than 25% response of a particular theme was labelled as “few”.

- The first question was “what they liked best about the department?” Most of them said cooperative, professional behaviour and well-trained dentists. Some of them said clean and comfortable environment with good quality of treatment. A few of them said they liked economical treatment.
- The second question was “what they liked least about the department?” Most of them said the environment of waiting area was not good and there were very less seats available for patients. Some of them said there was no queue system in the waiting area. A few of them said that there was smell and lack of cleanliness in the department.
- The last question we asked was “In what ways we could have made their experience better?” Most of them said by making the waiting time shorter for the treatment, some of them said dental units should be properly cleaned and there should be more staff in the department. A few of them said space of waiting area should be increased and charges of treatment should be reduced.



- Green colour bars = score in satisfactory range
- Yellow colour bar = neutral score
- Red colour bar = score in unsatisfactory range

Figure No. 1: Histogram showing relationship of score and frequency distribution.

Overall satisfaction score: Overall satisfaction score was calculated by changing the reverse coded questions

(Q# 3, 5, and 6) to forward coded so that scoring could be achieved ranging from 9 as minimum score and 45 as maximum score for all 9 statements. Results showed that mean satisfaction score of 33.11±5.45 was achieved which shows overall satisfaction.

DISCUSSION

A cross sectional study was conducted before the outbreak of COVID-19 about patient satisfaction in dental teaching hospitals of Lahore⁹. Three hospitals participated in that survey and they were evaluated on the basis of following parameters that is participant’s satisfaction with administrative efficiency and clinical environment, Patient-dentist interaction and technical competency. They used a pre-validated questionnaire to conduct this study, however this study did not contain any questions regarding COVID-19. In this study, it was concluded that patients had a satisfactory response with performance of dentists and dental auxiliaries⁹. Another study was conducted in June, 2016, concluded that patients with higher education level were less satisfied as compared to patients with low education level if they had to wait for longer periods of time,¹⁰ however in our study, we found out that there was no significant impact of education level on patient satisfaction. In the same study, it was concluded that patient satisfaction was increased by friendly behavior of dentist and staff. Higher patient satisfaction was associated with lower education level and joblessness.¹⁰ According to another study conducted at Riyadh Elm University, Riyadh, most of the participants were satisfied with the services offered by the treatment providers and the dental clinics present in the university during COVID-19 pandemic.¹¹

A recent study conducted in Pakistan showed that there were many obstacles facing the dentists trying to utilize tele-dentistry in their private clinics where as it was easier for them to inculcate tele dentistry in the hospital practice due to availability of better personnel and financial resources.⁹ Multiple studies have pointed that developing countries have yet to achieve the necessary recourses and prerequisites to implement tele dentistry on a national level. These studies also hint at the advantages of an online system for the rural masses.^{12,13} In our study, most of the patients agreed that doctors showed cooperative and caring attitude and education level had no significant influence on patient’s

satisfaction, majority of the patients were comfortable in receiving the dental treatment during COVID-19, most of them even agreed upon the statement that they would recommend their friends to get their dental treatment done from this dental hospital even in COVID-19 pandemic.

Another possible reason for the high satisfaction level of the patients can be associated to the implementation of strict COVID-19 SOPs in the hospital. Application of SOPs in accordance with the international standards reinforced by an audit to ensure the implementation of every necessary policy can be a positive factor in patient satisfaction¹⁴. The study was conducted during the spread of “epsilon” variant which was dominant at the time of data collection. This was relatively later in the pandemic and the dentists and faculty members may have overcome the challenges faced in the initial stages of the pandemic.¹⁵

CONCLUSION

Our study concluded that patients were satisfied with the administrative and clinical environment of the dental hospital after receiving aerosol generating procedures during COVID-19 pandemic. There was a significant influence of patient education and number of visits on patient satisfaction.

Author’s Contribution:

Concept & Design of Study:	Muhammad Haseeb
Drafting:	Muhammad Iftikhar Ahsen, Muhammad Azeem
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Revisiting Critically:	Muhammad Haseeb, Muhammad Iftikhar Ahsen
Final Approval of version:	Muhammad Haseeb

Conflict of Interest: The study has no conflict of interest to declare by any author.

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