Research Article

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Impact of the COVID-19 Pandemic on Orthodontic Practice by Orthodontists in India: A Qualitative Research Study

Saurav Kumar[1*] Nadira Hassan[2] Gaurav Verma[3] Rehan Ahmad Khan[4] Taufique Anwer[5] Sana Shaikh[6]

[1]Senior Lecturer, Department of Orthodontics and Dentofacial Orthopedics, Mithila Minority Dental College & Hospital, Darbhanga, Bihar, India.
[2]Private Dental Practioner, Ara, Bhojpur, Bihar, India.
[3]Reader, Department of Oral and Maxillofacial Surgery, Awadh Dental College and Hospital, Jamshedpur, Jharkhand, India.
[4]Senior Lecturer, Department of Conservative Dentistry and Endodontics, Mithila Minority Dental College & Hospital, Darbhanga, Bihar, India.
[5]Private Dental Practioner, Araria, Bihar, India.
[6]Private Dental Practioner, Hadapsar, Pune, Maharashtra, India.

ABSTRACT

Aim: To study impact of the COVID-19 pandemic on orthodontic practice by orthodontists in India.

Materials and methods: The present study was conducted in the Department of Orthodontics of the Dental institution. The ethical clearance for the study was approved from the ethical committee of the hospital. For the study, we selected all orthodontists and orthodontic residents in the state. Of all the orthodontists selected, only 50 consented to participate. Self-administered questionnaires were distributed to consenting participants through an online data collection platform.

Results: In the present study, we evaluated the effect of COVID 19 on orthodontic practice. A total of 50 consenting orthodontists were included in the study population. We observed that 21 were females and 29 were males. We observed that 28 % orthodontists had lower patient turnout. 32 % orthodontists claimed that the practice is closed and not seeing patients. 40% orthodontists reported that they only see emergency patients. The effect of COVID 19 pandemic was seen in all the participating orthodontists.

Conclusion: Within the limitations of the present study, it can be concluded that the orthodontic practice of all the practitioners was affected by the COVID 19 pandemic. Majority of orthodontists were seeing patients only in emergency situations.

Keywords: COVID 19, orthodontists, orthodontic practice.

INTRODUCTION

The World Health Organization (WHO) declared coronavirus disease-2019 (COVID-19) outbreak a pandemic, at a media briefing in March 2020.[1] The outbreak of the disease was first reported in the area of Wuhan, China that developed exponentially into a public health crisis and progressed rapidly to other parts of the world.[2] Various healthcare models, economic regulation, and political ideologies have governed the acceleration and reverberation to this disease around the world.[3] In all the afflicted countries, the spread of COVID-19 has posed significant challenges in the field of dentistry and medicine. COVID-19 was recently identified in saliva of infected patients gesturing toward the responsibility of the oral and dental health professionals toward diligently protecting against the transmission of the infectious disease.[4]Aerosol-producing dental procedures, along with upcoming concerns, are not new to the dental discipline and at most, these concerns should

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***Correspondence Dr. Saurav Kumar.**
Department of Prosthodontics, Maharaja Ganga Singh Dental College & Research Centre, Sri Ganganagar, Rajasthan, India.
Email: dr.sauravmishra29@gmail.com

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not be selectively twisted, hampered, or emphasized under the light of the present pandemic or potential future endemics. They are effectively there since more than 20 years, and protective measures for dentists and clinic personnel should be prioritized in practice, irrespective of the presence of a pandemic, epidemic, normalized conditions, or otherwise.[5] Furthermore, these concerns and protective measures should effectively be carried forward through advancements in technologies as well as evidence directed by new knowledge over the years. The current pandemic situation has boosted our thinking and endorsements on how to efficiently manage and minimize aerosol production in contemporary practice.[6] Hence, the present study was conductedto study impact of the COVID-19 pandemic on orthodontic practice by orthodontists in India.

MATERIALS AND METHODS

The present study was conducted in the Department of Orthodontics of the Dental institution. The ethical clearance for the study was approved from the ethical committee of the hospital. For the study, we selected all orthodontists and orthodontic residents in the state. Of all the orthodontists selected, only 50 consented to participate. Self-administered questionnaires were distributed to consenting participants through an online data collection platform. The questionnaire contained two sections. Section A covered participants' sociodemographics, and section B documented participants' perceived impact of the COVID-19 pandemic on their practice of orthodontics, particularly with respect to patients' seen during the pandemic, infection control training, and their perceptions on the future viability of orthodontics as a specialty following the pandemic.

The statistical analysis of the data was done using SPSS version 11.0 for windows. Chi-square and Student's t-test were used for checking the significance of the data. A p-value of 0.05 and lesser was defined to be statistically significant.

RESULTS

In the present study, we evaluated the effect of COVID 19 on orthodontic practice. A total of 50 consenting orthodontists were included in the study population. We observed that 21 were females and 29 were males. The mean age of the participants was 37.29 years. (Table 1)

Table 1: Demographics of the participating orthodontists.

Variables	Numerical value
Total number of participants	50
Female participants	21
Male participants	29
Mean age (years)	37.29

Table 2: Effect of COVID-19 pandemic on orthodontic practice.

Variables	Percentage of participants	p-value
Lower patient turnout	28	0.02
The practice is closed and not seeing patients	32	
The practice only sees emergency patients	40	
No effect	0	

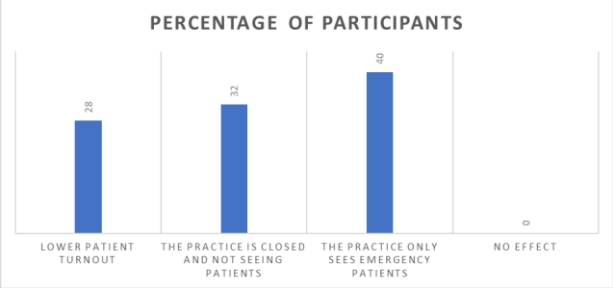

Fig 1: Effect of COVID-19 pandemic on orthodontic practice.

Table 2 shows the effect of COVID-19 pandemic on orthodontic practice. We observed that 28 % orthodontists had lower patient turnout. 32 % orthodontists claimed that the practice is closed and not seeing patients. 40% orthodontists reported that they only see emergency patients. The effect of COVID 19 pandemic was seen in all the participating

orthodontists. The results on comparison were found to be statistically significant. [Fig 1]

DISCUSSION

In the present study, we observed that we evaluated the effect of COVID 19 on orthodontic practice. We observed that 28 % orthodontists had lower patient turnout. 32 % orthodontists claimed that the practice is closed and not seeing patients. 40% orthodontists reported that they only see emergency patients. The effect of COVID 19 pandemic was seen in all the participating orthodontists. The results were compared with other studies from the literature. Cotrin P et al [7] evaluated the most common urgencies and emergencies in orthodontics during the coronavirus disease 2019 (COVID-19) pandemic and to assess how orthodontists in Brazil were dealing with patients and challenges. Early in 2020, as the COVID-19 pandemic spread around the world, routine dental care was suspended in many countries, and only patients needing urgent or emergency care could be seen. During this period, orthodontists in Brazil were invited to participate in an anonymous online survey. Over 48 hours (May 1-3, 2020), 395 orthodontists (specialists, MScs, and PhDs) responded. They answered questions regarding dental office and appointments during the pandemic, the type of urgency or emergency care provided, the type of appliance and urgencies, etc. The level of concern about the impact of the pandemic on patients' orthodontic treatments and the financial impact on the dental office was also evaluated. Descriptive statistics were performed with percentages, and responses were compared between specialists, MScs, and PhDs, using chi-square tests. Specialists were the majority of respondents. Most orthodontists were handling only emergencies or urgencies. The most frequent urgencies were bracket breakage, archwire breakage, and breakage of molar tubes and/or bands. Stainless steel fixed appliances were the most common type of appliance related to unscheduled appointments. The majority of patients got in touch with the orthodontist using the professional WhatsApp messenger (WhatsApp Inc, Menlo Park, Calif). Orthodontists were more concerned with the financial impact of the pandemic than with the orthodontic treatment itself. They concluded that breakage of brackets, archwires, or tubes and/or bands were the most common causes of urgency and/or emergency appointments during the pandemic. The level of concern about the financial impact of the stay-at-home orders and the COVID-19 pandemic was significantly greater for specialists and MScs than for PhDs. Arora S et al [8] assessed the knowledge, risk perception, attitude, and preparedness of the dentists in India about COVID-19. A cross-sectional online survey was carried out among registered dentists in India. A self-administered, anonymous, questionnaire comprising of 25 close-ended questions was circulated to gather the relevant information. A total of 765 dentists submitted a response, out of which 646 complete responses were included in the statistical analysis. Pearson's Chi-square test was used for inter-group statistical comparison. The majority (80.8%) of the dentists had a fair knowledge about the characteristics of COVID-19. Nearly 60.7% and 49.7% of the dentists had taken infection control training and special training for COVID-19, respectively. Nearly 50% of the dentists had the perception that COVID-19 is very dangerous. Only 41.8% of the dentists were willing to provide emergency services to patients. Most of the dentists had an opinion that there is a need to enhance personal protective measures. During the survey, it was found that varied technological advances are offered to dentists to ensure good clinical practice. They also concurred that there was a need to standardize the tools and measures available to carry out dental practices. They concluded that Indian dentists presented satisfactory knowledge with adequate preparedness as the majority of them had a fair level of knowledge with significantly higher knowledge among female respondents and those with post-graduation studies.

Isiekwe IG et al [9] assessed the impacts of the pandemic on orthodontists and orthodontic residents in Nigeria. This cross-sectional study was conducted among consenting orthodontists and orthodontic residents. The respondents were contacted through the WhatsApp group of the Nigerian Association of Orthodontists to fill the self-administered online questionnaires (Google forms). The questionnaire had two sections: A, Sociodemographics; B, Perceived impact of the COVID-19 pandemic. This study population comprised 98 people; however, only 73 participants responded, which represented a response rate of

74.5%. Approximately 60% (44) of the respondents thought that the COVID-19 pandemic would lead to a reduction in the number of orthodontic patients in the future, whereas almost all the respondents reported that it would affect their future practice of orthodontics. Most of the respondents (63.0%) reported that the pandemic had recorded a moderate to severe negative economic impact on them. Significant gender differences were recorded, in the social life of respondents, in addition to economic and psychosocial effects. Martina S et al [10] investigated if dentists are anxious about returning to their daily activities, and what the perception of the risk is for dentists and orthodontists regarding orthodontic procedures. An online questionnaire, including the Patient Health Questionnaire-4 (PHQ-4), was sent to Italian dentists during the final days of the lockdown with items about anxiety, fear, distress, perceived risk for operators, and concerns about orthodontic patients caused by working during the COVID-19 outbreak. Data were analyzed with a chi-square test and logistic regression analysis. A total of 349 dentists completed the survey, including 183 orthodontists. Returning to their daily work activity was a source of anxiety for 192 participants and this was associated with the level of distress (odds ratio (OR) = 3.7; $p < 0.001$). Most of the orthodontists (67.6%) thought that they would increase the number of working hours during the week (OR = 1.8; $p = 0.007$). Italian dentists were mostly scared to return to their daily activities because they considered their jobs a high risk to them and their families. Dentists with an exclusive/prevailing orthodontic activity were forced to increase their working day during the week.

CONCLUSION

Within the limitations of the present study, it can be concluded that the orthodontic practice of all the practitioners was affected by the COVID 19 pandemic. Majority of orthodontists were seeing patients only in emergency situations.

CONFLICTS OF INTEREST

The authors declare they have no potential conflict of interests regarding this article.

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