

Problems Faced by Orthodontic Patients And The Precautions Taken By Them For Its Prevention During National Lockdown Due to COVID-19 Pandemic among The Population of Sullia, Dakshina Kannada-A Questionnaire Survey

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DOI: [10.36347/sjds.2021.v08i01.006](https://doi.org/10.36347/sjds.2021.v08i01.006)

| Received: 23.12.2020 | Accepted: 04.01.2021 | Published: 09.01.2021

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Abstract

Original Research Article

Background and objective: In March 2020, the World Health Organization (WHO) declared the COVID-19 outbreak a pandemic. A nationwide lockdown was implemented overnight in India on March 24, 2020. Thus, many dental care services including orthodontic practice were suspended. This study aimed to assess the problems faced by orthodontic patients and the precautions taken by them for its prevention during national lockdown due to COVID-19 pandemic. **Methods:** An online questionnaire was developed and sent to patients receiving orthodontic treatment at KVG Dental college, sullia, Dakshina kannada, Karnataka. **Results:** The responses of a total of 158 orthodontic patients were included in the study, among which majority were female orthodontic patients and most of them belonged to Karnataka and kerela and majority belonged to age group of 20-30 years. Majority of patients who participated in the study were undergoing orthodontic treatment for more than 1.5 years, among which most of them faced problems with their braces due to lockdown. Out of which, the most common problem faced by them was loose or broken braces and wire poking at the corner of the mouth. The result of the study also showed the precautions taken by the orthodontic patients to prevent problems with their braces which included good oral hygiene practices, avoiding consumption of hard or sticky food, decreasing the frequency of consumption of sugary foods and the result of the study showed that patients who took these precautions faced less or no problems with their braces during lockdown. **Conclusion:** The COVID-19 pandemic had a significant impact on orthodontic treatments. Almost every orthodontic patient had to stop attending their appointments, due to which they faced so many problems with their braces which caused them discomfort.

Keywords: COVID-19, Coronavirus, orthodontic treatment.

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INTRODUCTION

At the end of 2019, an outbreak of a novel coronavirus (Coronavirus Disease 2019 [COVID-19]) started from Wuhan, China, and later on spread widely around the globe and led to a major public health issue [1]. The COVID-19 is a viral infection caused by the novel coronavirus; interpersonal transmission occurs mainly via respiratory droplets and contact transmission, in addition to these characteristics, asymptomatic subjects and patients in the incubation period are also carriers of the novel coronavirus [2]. Symptoms of breathing difficulty, lung infection, fever

and pneumonia were observed in patients in whom the virus had infested [3]. The characteristics of dental practices, such as close face-to-face communication, droplet and aerosol-generating procedures, and contaminated surfaces, expose dental patients and practitioners to high levels of pathogenic microorganisms and high risks of cross infection. In addition, standard precautions are insufficient to protect practitioners and patients from the infection of COVID-19, which brings great challenges to dental services in this period [4]. Several dental clinics were closed as it was suggested that all other regular treatments should be postponed and only patients requiring emergency

care could visit their dentist under strict precautions. On the other hand, patients receiving orthodontic treatment require multiple checkup visits to their orthodontist to adjust their appliances over a longer period that sometimes may take more than 2 years. Therefore, millions of orthodontic patients were not able to receive the care they needed during this pandemic. Thus, this study aimed to assess the problems faced by orthodontic patients and the precautions taken by them for its prevention during national lockdown due to COVID-19 pandemic.

MATERIALS AND METHODS

This cross-sectional study was carried out with a Web-based questionnaire using google forms (docs.google.com/forms). A 17 questionnaire were included in the study to assess the problems faced by orthodontic patients and the precautions taken by them for its prevention during national lockdown due to COVID-19 pandemic. An online questionnaire was developed and sent to patients receiving orthodontic treatment at KVG Dental college and hospital, Sullia, Dakshina kannada, Karnataka between May 2020 and July 2020. To validate the questionnaire, it was evaluated by an experienced orthodontist to check whether the questions effectively capture the purpose of the study. The questionnaire was in English language. This being an open voluntary questionnaire, answers to all the questions were mandatory. Adaptive questioning was used, hence some questions were on display in accordance with the previous answer. Also, respondents were able to click on the "back" option to change their answer if they wish to before submitting. Uncompleted questionnaires were not submitted. The Ethical approval was obtained from the Ethics committee KVG dental college Sullia, Dakshina Kannada. Soft copy of questionnaire was delivered through mail, whatsapp to get maximum possible number of responses from patients. A total of 158 responses were included in this study.

Questionnaire

1. Email address
2. Gender:
 - Male
 - Female
3. State
4. Age:
 - <10 years
 - 10-20 years
 - 20-30 years
 - 30-40 years
5. Duration of orthodontic treatment
 - 1-3 months
 - 3-6 months
 - 6-12 months
 - >1.5 years
6. Are you facing any problem with your braces during this lockdown?
 - Yes
 - No
7. If yes, what are the problems you are facing?
 - Loose/Broken braces
 - Loose Bands
 - Wire poking at back of the mouth
 - Traumatic ulcer
 - Shortage of elastics
 - Pain in tooth
 - Loose teeth
 - A broken fixed retainer
 - Lost elastic module which engaged the wire
 - Fractured removable retainer
 - Pain or swelling due to pre-activated fixed appliance such as Pendulum Forsus, Distal Jet appliance
 - Metallic ligature causing soft tissue trauma or pain
 - Periodontal abscess around Molar band
 - Displaced arch wire
8. How many times do you brush your teeth?
 - Morning
 - Before going to bed
 - After every meals and snacks
9. What type of toothbrush do you use to clean your teeth?
 - General tooth brush
 - Orthodontic tooth brush
 - Soft bristle tooth brush
 - Not specific
10. What type of toothpaste do you use to clean your teeth?
 - Fluoride toothpaste
 - Non-fluoride toothpaste
 - Not specific
 - Don't know
11. What do you use to clean your teeth or maintain good oral hygiene?
 - Orthodontic tooth brush
 - Orthodontic tooth brush+ mouthwash+ inter dental brush
 - General tooth brush
 - Orthodontic tooth brush+ mouthwash
12. How often do you consume sugary foods/sweets?
 - Snacking in between meals
 - With every meals
 - Every night after dinner
 - Very rare
13. What precautions do you take to avoid breaking your braces?
 - Avoid crunchy/ hard food
 - Avoid sticky food
 - Avoid chewing pen lids/pencil/ biting nails
14. Your diet contains which type of food?
 - Food rich in sugar content
 - Junk foods
 - Aerated drinks
 - Healthy food rich in nutrients
15. Are you using removable retainer?
 - Yes
 - No



() Soak it in a chemical cleaner (retainer bite/similar chemical) once a week

RESULTS

The responses of a total of 158 orthodontic patients were included in the study. The results of the study are presented with the help of pie charts and bar diagrams below.

16. If yes, How often do you clean it?
 () After every meals & snacks
 () At night after dinner
 () Every morning
17. How do you clean your removable retainer?
 () With toothbrush only
 () With soft toothbrush & toothpaste

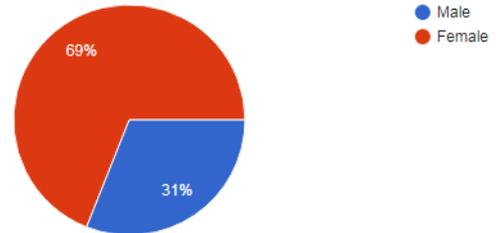


Fig-1: Gender based distribution

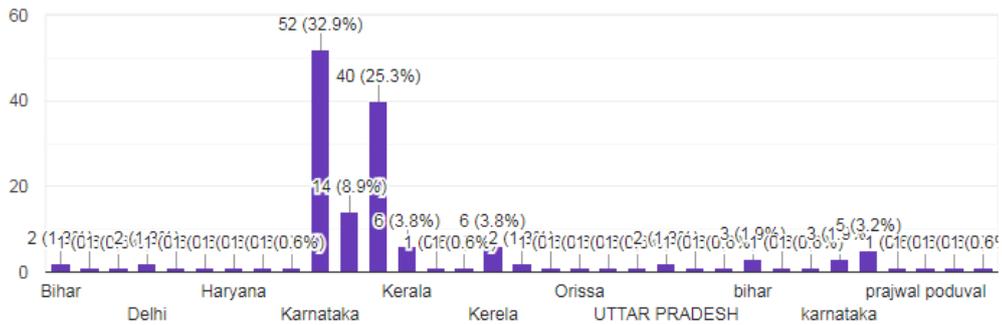


Fig-2: State wise distribution

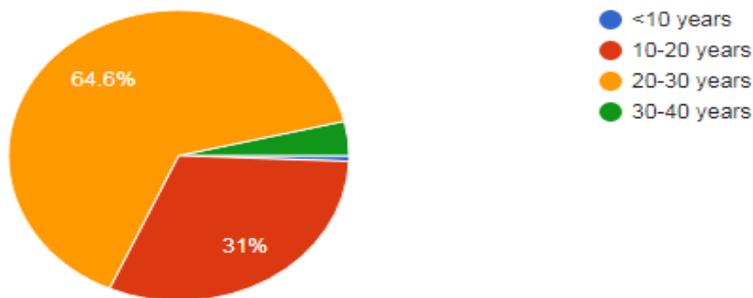


Fig-3: Age based distribution

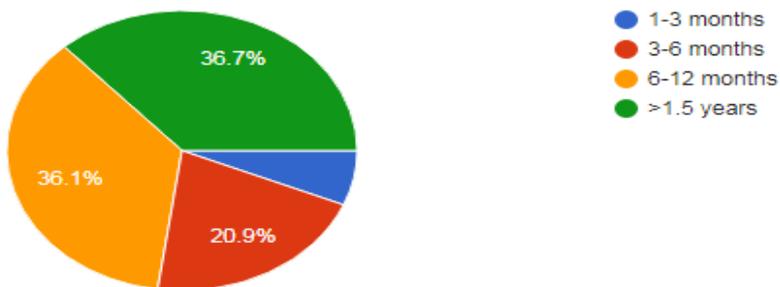


Fig-4: Duration of orthodontic treatment

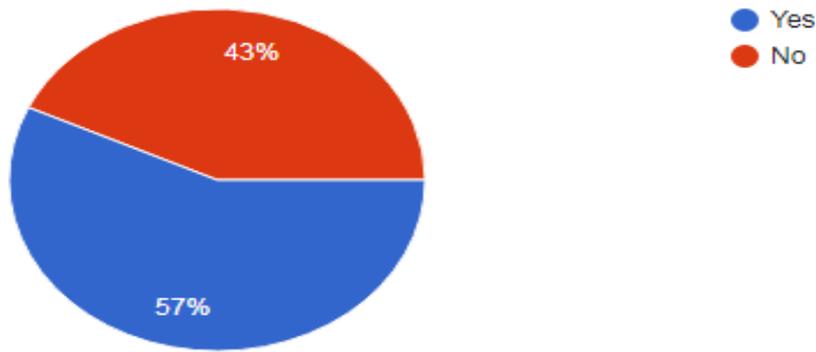


Fig-5: The responses of a total of 158 patients were included in the study, among them 57% of patients faced problems with their braces during lockdown

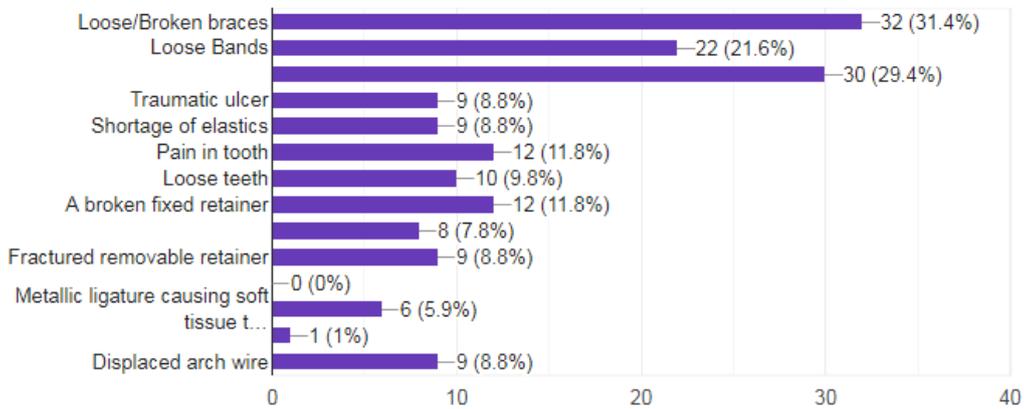


Fig-6: Problems faced by orthodontic patients during lockdown

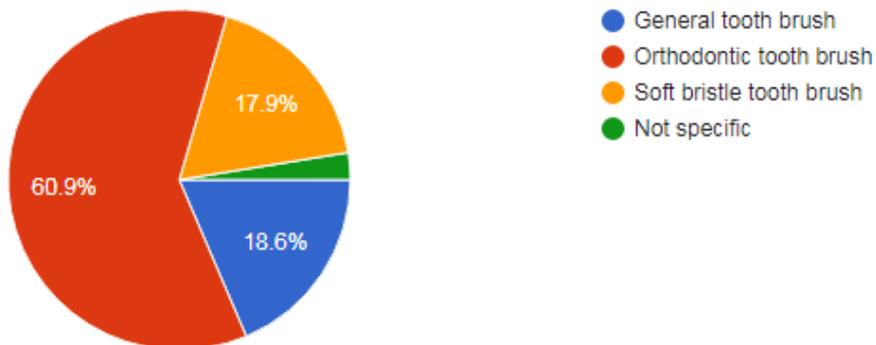
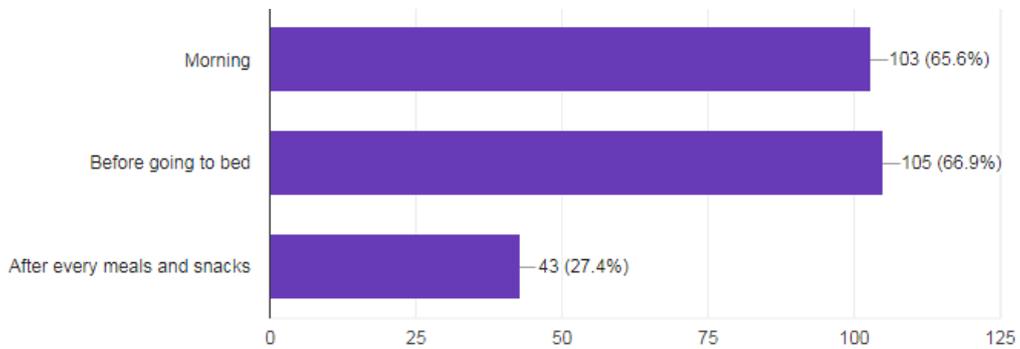


Fig-8: Type of tooth brush used by orthodontic patients

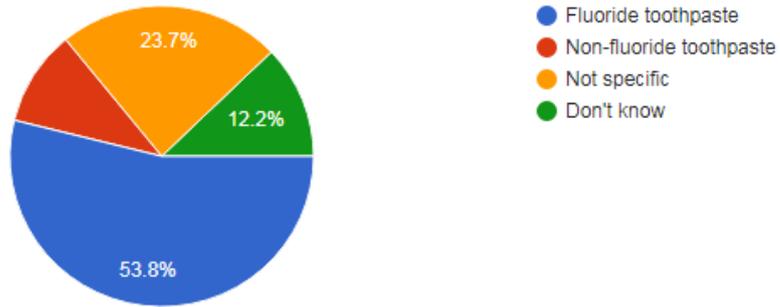


Fig-9: Type of toothpaste used by orthodontic patients

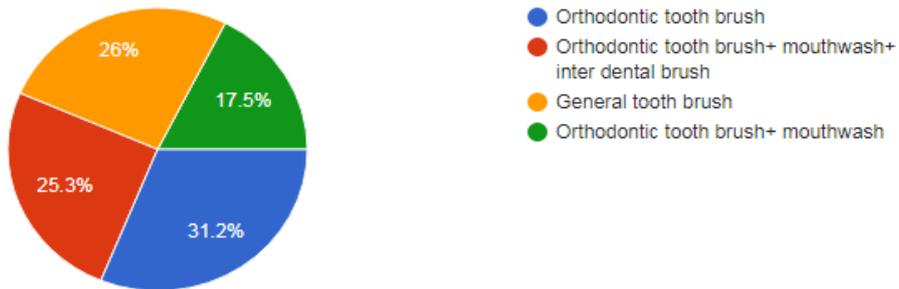


Fig-10: Methods to maintain good oral hygiene

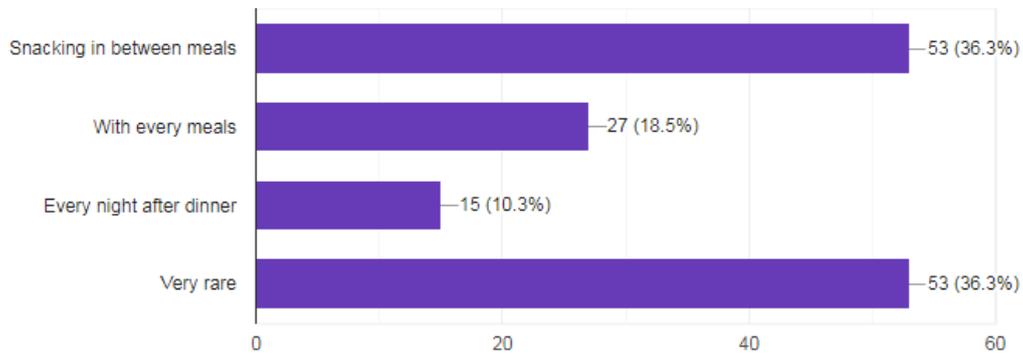


Fig-11: Frequency of consuming sugary foods/sweets

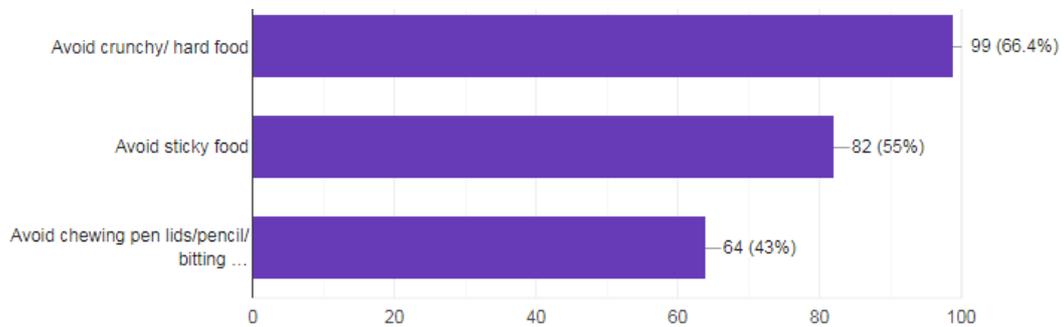


Fig-12: Precautions taken by orthodontic patients to avoid breaking of braces

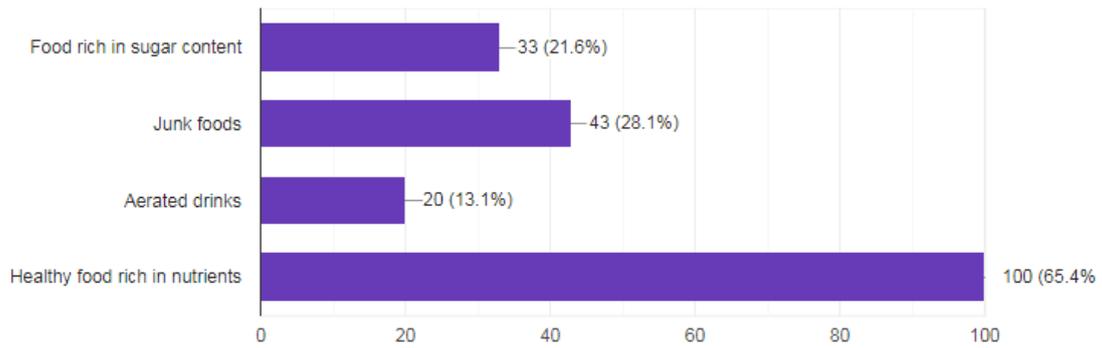


Fig-13: Type of food consumed by orthodontic patients

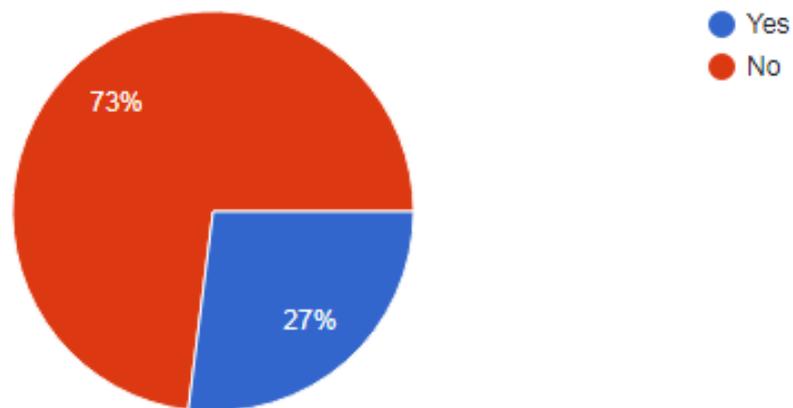


Fig-14: Patients using Removable retainer

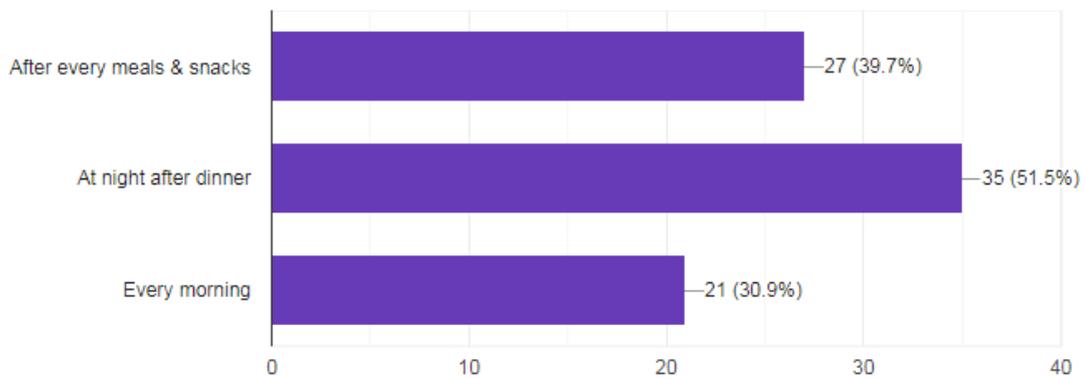


Fig-15: Frequency of cleaning removable retainer

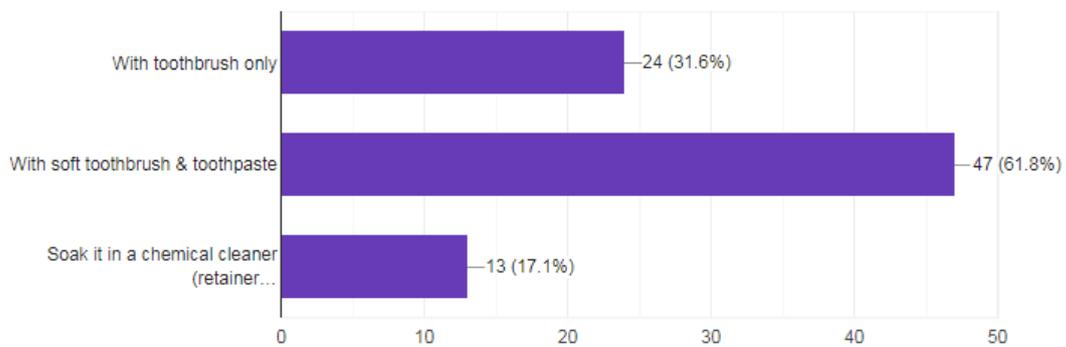


Fig-16: Methods used to clean removable retainer

DISCUSSION

Globally, the COVID-19 pandemic has been the main concern among societies because of many limitations that have occurred to everyday life. Being in high risk of infection, most dental clinics were closed, which put the patients who were receiving orthodontic treatment in a complicated situation, mainly due to the hindrance that occurred to their regular visits to their orthodontist. This study aimed to assess the problems faced by orthodontic patients and the precautions taken by them for its prevention during national lockdown due to COVID-19 pandemic. A 17 questionnaire were included in the study to assess the problems faced by orthodontic patients and the precautions taken by them for its prevention during national lockdown due to COVID-19 pandemic. The link for the questionnaire was sent to patients to receiving orthodontic treatment at KVG Dental college and hospital, Sullia, Dakshina Kannada, Karnataka via WhatsApp Messenger because it is used by most patients, and made it easier to reach them during lock-down period. The main focus was to access the percentage of patients facing problems with their braces due to national lockdown because several dental clinics were closed as it was suggested that all other regular treatments should be postponed and only patients requiring emergency care could visit their dentist under strict precautions.

The responses of a total of 158 orthodontic patients were included in the study, among which majority were female orthodontic patients and most of them belonged to Karnataka and Kerala and majority belonged to age group of 20-30 years. Majority of patients who participated in the study were undergoing orthodontic treatment for more than 1.5 years, among which most of them faced problems with their braces due to lockdown. Out of which, the most common problem faced by them was loose or broken braces and wire poking at the corner of the mouth. The result of the study also showed the precautions taken by the orthodontic patients to prevent problems with their braces which included good oral hygiene practices, avoiding consumption of hard or sticky food,

decreasing the frequency of consumption of sugary foods and the result of the study showed that patients who took these precautions faced less or no problems with their braces during lockdown.

CONCLUSION

The COVID-19 pandemic had a significant impact on orthodontic treatments. Almost every orthodontic patient had to stop attending their appointments, due to which they faced so many problems with their braces which caused them discomfort. The result of the study also concluded that patients who took these precautions (which included good oral hygiene practices, avoiding consumption of hard or sticky food, decreasing the frequency of consumption of sugary foods) faced less or no problems with their braces during lockdown. Therefore, patients undergoing orthodontic treatment should follow proper instructions given by their respective orthodontist to avoid problems with their braces.

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