

Psychological Impact of Covid-19 on Orthodontic Patients

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ABSTRACT

Background: Unexpected postponement or delay in various treatment protocols during peak time of COVID-19 cause serious psychological trauma and obstacle to orthodontists and orthodontic patients as well.

Objective: To evaluate depression and anxiety level of orthodontic patients during this chaos regarding their treatment even when the treatment was resumed.

Study Design: Questionnaire-based cross-sectional study.

Place and Duration of Study: Department of Orthodontics, Bacha Khan College of Dentistry, Mardan from 1st July 2021 to 31st December 2021.

Methods: One hundred and sixty-six orthodontic patients were enrolled after taking informed consent from the patients. Data were taken in hard form and then later verbally translated into native language of this area. Numerical rating scale was used for psychological assessment and for the determination of anxiety level where 0 refers to no anxiety and 10 interprets extreme anxiety.

Results: Ninety-three females and seventy-three males were present in this study.

Conclusion: Severe anxiety level was reported and patients were greatly concerned about their health.

Keywords: COVID-19, Pakistan, Psychological assessment, Pandemic, Anxiety

INTRODUCTION

COVID-19 is declared as public health emergency by world health organization (WHO) on January 30th, 2020. This deadly virus first appeared in the city of China, Wuhan which belonged to family of virus known as Severe Acute Respiratory Syndrome (SARS) that already cause MERS in Saudi Arabia in year 2013. This virus family also cause massive destruction and chaos this time also and affected 116 million people by March 2021. Corona virus has shuddered the public not only economically but also mentally and physically.¹⁻⁵ In developing countries like Pakistan it adversely influences economy and make the access of first aid and treatment of life-threatening disorders extremely difficult and out of reach for many people. Cases colossally spread and virus transmits all provinces of Pakistan and makes the situation chaotic. By June 2020, each district of Pakistan has verified case of corona virus.⁶⁻¹⁰ To combat this virus and for preventing its transmission, Pakistani government declared lockdown like every other country of the world. This resulted in closure of important institutional buildings including educational institutes. Instability raised in country and micro smart lock down has also declared latter to normalize the situation. In hospitals, only emergencies remained open and outpatient department remain close for months. This affected all the elective procedures and access of needy people to hospitals. Orthodontic department of BKMC also remained closed for 3 months' period.

Unexpected postponement or delay in various treatment protocols during peak time of COVID-19 cause serious psychological trauma and obstacle to orthodontists and orthodontic patients as well. Present study was aimed for the analysis of psychological assessment, trauma and anxiety level of the patients regarding orthodontic treatment in Bacha Khan Hospital.

MATERIALS AND METHODS

The study was approved by the Research Ethical Committee of Bacha Khan Medical & Dental College, Mardan. Patients undergoing active orthodontic treatment, aged above 12 years, consenting to contribute were included. The data was collected in hard form when elective treatments were resumed and was verbally translated in the native language of the people of this region (Pashto). One hundred and eighty questionnaires were distributed in the form of hardcopies out of which 166 patients answered with a response rate of 92.2%.

Names of the patients were not disclosed only gender, age and city of the patients were addressed and questions regarding quarantine and their anxiety. A Numerical Rating Scale (NRS)⁵ was used to assess anxiety levels and impact of quarantine on orthodontic patients regarding both the treatment and pandemic

where 0 being no anxiety and 10 extreme anxiety. The answers were acquired and calculated in excel for statistical analysis. Descriptive statistics was executed. Evaluation between females and males was achieved with independent 't' test. To assess relationship of the feeling and level of anxiety concerning quarantine/coronavirus pandemic and the inclination to attend an orthodontic appointment, the Chi-square, One-way ANOVA and Tukey's tests were used. Correlations between age of the patients and the levels of anxiety about the coronavirus pandemic and impact on orthodontic treatment were performed with Pearson's correlation coefficient. Statistical analysis was performed with SPSS-22 and results were considered significant for P< 0.05.

RESULTS

Ninety three were females and 73 males. Amongst the males 7 (9.5%) were 13 years old, 8 (10.96%) were 14 years old, 6 (8.21%) were 15 years old, 11 (15.06%) were 16 years old, 19 (26.02%) were 17 years old, 13 (17.81%) were 18 years old and 9 (12.32%) were 19 years old respectively. While amongst the females 8 (8.6%) were 13 years old, 12 (12.90%) were 14 years old, 7 (7.52%) were 15 years old, 19 (20.43%) were 16 years old, 21 (22.60%) were 17 years old, 8 (8.6%) were 18 years old and 18 (19.35%) were 19 years old respectively (Table 1).

Participants were asked the question about how did they regard the quarantine. Around 61.64% males and 56.98% females told that they were keeping themselves restricted to home as much as they can except for nutritional and medical purposes. Similarly for the question of commotion towards work and study if any was performed majority of the participants answered that they were doing their work or study from home (Table 2). When the participants were asked about their response towards pandemic while being in a anxiety condition females shared more of a fear while men were more peaceful during the pandemic (Fig. 1). In response to the question about appointment arrangement with a specialist most of the participant w=answered that this only happened at the time of emergency with female more prevalent to seek appointment Fig. 2).

Table 1: Age gender distribution

Age (years)	Male	Female	χ^2	P value
13	7 (9.5%)	8 (8.6%)	5.03	0.539
14	8 (10.96%)	12 (12.90%)		
15	6 (8.21%)	7 (7.52%)		
16	11 (15.06%)	19 (20.43%)		
17	19 (26.02%)	21 (22.60%)		
18	13 (17.81%)	8 (8.6%)		
19	9 (12.32%)	18 (19.35%)		
Total	73 (100%)	93 (100%)		

Majority of the cases were having moderate level anxiety with their major problem with orthodontics check-up was schedule treatment postponed. Participants agreed with a majority number that all the bio-safety equipment including lab coat, face shield, surgical masks and sanitization are required factors during a pandemic (Table 3).

The response against questions of orthodontic treatment considered was taken as emergent by most of the participants while participants majority had a consensus on the fact that pandemic affected both orthodontist as well as their treatment (Table 4).

Table 2: Responses regarding quarantine and work/study questions

Question	Male	Female	χ^2	P value
How did you regard the quarantine?				
I did not left home for anything	17 (23.28%)	21 (22.58%)	0.986	0.610
I was remaining home as much as possible (going out only to buy nourishment/medicine)	45 (61.64%)	53 (56.98%)		
I was going out as usual	11 (15.06%)	19 (20.43%)		
Are you doing any work or else study? If so, how was your commotion?				
Yes, I was going out of home for office or study	14 (19.17%)	31 (33.33%)	10.14	0.006
Yes, but I was working/studying at home	38 (52.05%)	50 (53.76%)		
I do not work or study	21 (28.76%)	12 (12.90%)		

Table 3: Response against anxiety and biosafety questions

Question	Male	Female	χ^2	P value
In a scale from 0 to 10, how is your anxiety with the coronavirus pandemic?				
0 – 3 Mild level Anxiety	27 (32.87%)	18 (19.35%)	8.01	P = 0.018
4 – 6 Moderate level Anxiety	30 (41.09%)	35 (37.63%)		
7 – 10 Severe level Anxiety	16 (21.91%)	40 (43.01%)		
What was your extreme worry about how quarantine could have affected your orthodontic treatment?				
Postponement of treatment end	41 (56.20%)	36 (38.71%)	12.885	0.012
Impair the final result	3 (4.11%)	14 (15.05%)		
De bonding of brackets worsening the malocclusion	18 (24.70%)	33 (35.50%)		
Break of accessories causing discomfort/injury	8 (10.96%)	10 (10.80%)		
I was not concerned	3 (4.11%)	-		
On a scale from 0 to 10, how was your anxiety regarding the effect of the coronavirus pandemic and quarantine on your orthodontic treatment?				
0 – 3 Mild Anxiety	13 (17.80%)	8 (8.60%)	16.043	0.000
4 – 6 Moderate Anxiety	36 (49.32%)	25 (26.90%)		
7 – 10 Severe Anxiety	24 (32.88%)	60 (65.50%)		
What do you reflect significant, in this real situation, in a dental office? (Select all that apply)				
Disposable lab coat, surgical mask, head cap	11 (15.07%)	16 (17.20%)	3.40	0.333
Use of Alcohol hand sanitizer	12 (16.43%)	12 (12.90%)		
Use of face shield	8 (10.96%)	4 (4.30%)		
All of these	42 (57.53%)	61 (65.60%)		

Table 4: Response against orthodontic treatment during pandemic

Question	Male	Female	χ^2	P value
Do you think Orthodontic treatment should be considered an emergency?				
Yes definitely	42 (57.54%)	48 (51.61%)	0.00	0.970
No, because it is not life threatening	31 (42.46%)	35 (37.63%)		
Who do you think the lockdown is affected more?				
I think my Orthodontist was more affected than I was	15 (20.55%)	12 (16.44%)	2.12	0.345
I think I was more affected than my Orthodontist	23 (30.13%)	28 (30.11%)		
I think this lockdown affected both me and my Orthodontist equally	35 (47.94%)	53 (56.98%)		

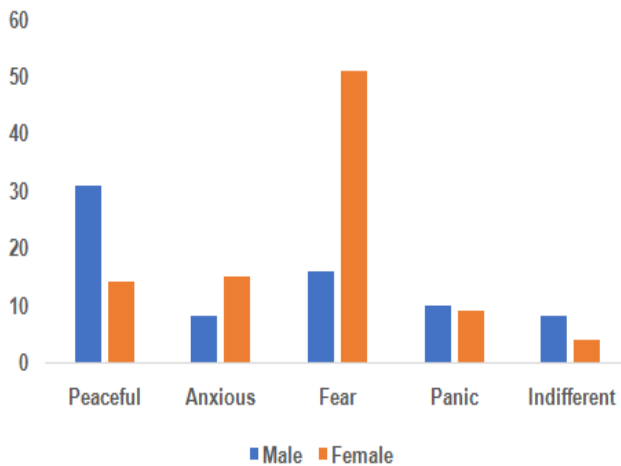


Fig 1: Sense about the quarantine and the ongoing coronavirus pandemic

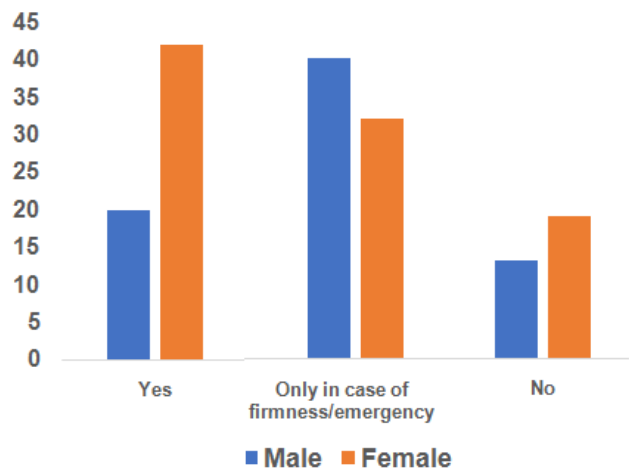


Fig 2: Appointment arrangement during the quarantine

DISCUSSION

The pandemic hit the world in the created chaos and anxiety amongst individuals of all ages. All social interactions and gatherings were banned the government that added to the stress of already anxious population. Orthodontic treatment is a long treatment that requires multiple visits extending from few months to 2-3 years depending upon the complexity of treatment.¹¹⁻¹⁵ Since all the elective procedures at the hospital were put to a halt due to pandemic. It was expected to have psychological impact on the patients receiving regular orthodontic visits. It was therefore imperative to objectively assess the level of psychological impact on such patients in order to plan adequate psychological strategies for future. In addition the awareness and attitudes of patients during the pandemic were assessed.¹⁶⁻²⁰ This study showed that female respected the quarantine more than males and studied/worked from home more than males.

The level of anxiety regarding the pandemic and also regarding the effect of quarantine on orthodontic treatment is found to be greater in females than males as shown by survey conducted at China.²¹ Regarding the question whether patients would attend their orthodontic appointment if scheduled large group of females agreed as it would cause a delay in the treatment time. Although the greater percentage of males agreed that the quarantine would delay the end of their treatment as also reported in by a study published in American Journal of orthodontic treatment but most of them opted to visit orthodontist in case of emergency only in contest to the females. This is due to greater amount of anxiety felt by the females as also reported by a previous study of Turkistani.²² The orthodontic treatment was considered as an emergency procedure by majority of the sample who at the same time thought that the lockdown affected both them and their orthodontists equally.

CONCLUSION

This study highlights the perception of orthodontic patients in COVID-19 lockdown. Significant associations were found and patients were concerned about their medical procedure and treatment. Participants were also anxious about the biosafety protocol during treatment protocol.

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