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Economic Impact Of Covid-19 Among Dental Practitioners A Cross Sectional Study

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ABSTRACT

Introduction: COVID-19 which meant the 21st century's worst public health crisis. The corona virus emerged in 2019 and had a great emotional and economic impact all over the world where millions were affected. The aim of the study is to access the economic impact of COVID-19 pandemic on dental practitioners.

Materials And Method: A cross sectional study was conducted employing a self administered questionnaire to the dental practitioners. A pre-validated and reliable questionnaire containing 11 questions pertaining to the economic impact of COVID-19 on dental practitioners through Google forms had been distributed to the participants. Their responses were collected and analyzed using SPSS version 23.0. Descriptive statistics and inferential statistics were performed to present the responses.

Results: About 62% of participants were paid for online consultancy. A majority of dental practitioners 65.15% went on a trip/vacation. Income was increased among 63% of the dental practitioners during the pandemic. Majority (71.21%) of dental practitioners bought personal/household appliances. The difference in the economic impact during COVID-19 among the male and female participants was found statistically not significant ($p>0.05$).

Conclusion: Most of the dental practitioners have not faced an economic crisis during the COVID -19 pandemic. In fact their income had increased during the lockdown due to shutdown of many dental clinics in rural areas.

Keywords: *Covid-19, dental practitioners, economic impact, novel method*

1. INTRODUCTION

The corona virus or COVID-19 which meant the 21st century's worst public health crisis(Balanzá-Martínez *et al.*, 2021). The corona virus emerged in 2019 and had a great impact all over the world where millions were affected(Haq, 2020). This study is done to evaluate the impact of COVID-19 pandemic on dental practitioners. The spread of COVID-19 through droplets and aerosols had put dentists into danger. Hence COVID-19 had an immense effect on the dental field and also affected the income of dentists(Tao *et al.*, 2020). This research was done on dental practitioners to see the level of impact of COVID by a questionnaire. Coronavirus affected dentistry very much so as to evaluate the impact and also the changes of treatment method, working hours. There is a lot of research done on this topic like an example of the impact of COVID 19 pandemic on dentists in Iran(Ahmadi, Ebrahimi and Ghorbani, 2020).

As from country to country, the steps taken to overcome the COVID-19 impact on dentistry may vary. The research on Iran was done by a questionnaire pattern to evaluate the impact. The results were like a reduction in working hours was the majority and some closed their clinic. The conclusion of this research was to execute or to make dentists realise the infection of COVID also about safety protocol to decrease the chance of exposure to COVID-19(Ahmadi, Ebrahimi and Ghorbani, 2020; Kamel *et al.*, 2021). The pandemic has changed the treatment method such as wearing masks and personal protective kits which as a safety to prevention of COVID also made it hard for some dentists to make treatment(Datta, no date). This research is needed to assess the impact of COVID-19 on dental practitioners and hence it will fulfil the deficiency to

understand the economic crisis of COVID-19 in dental practitioners and dental fields. Finally the aim of the study is to assess the economic impact of COVID-19 among dental practitioners as a cross-sectional study as during quarantine many decreased their working hours and even closed which may affect the financial status of dentists(Muruganandam et al., 2020). There may be an impact of COVID-19 on dental practitioners or may have an impact to fulfil or to clear this, the study has been done on a small scale. The aim of the study is to evaluate the impact of COVID-19 pandemic on dental practitioners

2. MATERIALS AND METHODS

A cross sectional study was conducted employing a self administered questionnaire to the dental practitioners. Prior ethical approval to conduct the study was obtained from the Institutional Review Board of the author's university. A non-probability convenience sampling method was employed. Dental practitioners and early dentists are included in this study. The participation of the subject was voluntary, and their identities were kept anonymous. A prevalidated and reliable questionnaire containing 11 questions had been distributed to the participants (Annexure 1). The internal consistency of the questionnaire using Cronbach's alpha was found to be 0.71. This study was conducted by assessing responses to 11 selected questions pertaining to the impact of covid-19 on dental practitioners through Google forms with a sample size of 102 dental practitioners. Their email id was obtained from Indian Dental Association, Madras branch. A reminder mail was also sent for non-respondents. Statistical analysis was performed using Statistical Package for the Social Sciences (SPSS) software version. 23.0 (IBM, Chicago, USA). Descriptive statistics were performed to present the frequency distribution of the options of the question items.

3. RESULTS

A decent amount of dentist practitioners responded to questionnaires and the results were discussed. Figure-1 represents whether they have their own dental clinic. 45.45% of dentists reacted yes which means they had their own dental clinic and the majority 54.55% didn't have their own dental clinic. Figure-2 represents whether they are being paid for online consultancy. At a percent of 62.12% of the dentists are paid for online consultancy and 37.66% responded no which means they didn't get paid for online consultancy. Most practitioners 65.15% responded yes to going on a trip or a vacation during a pandemic (Figure2). Figure 4, majority 75.76% of them reduced their working hours during pandemic and 24.24% responded to no. They can reduce the working hours and can be available for emergency treatment. Figure-5 represents the usage of personal protective kits. 86% of dental practitioners responded yes to usage of personal protective kits and 13% reacted no which means they didn't use personal protective kits while handling. Major of them responded to contact with patients through whatsapp and few responded as direct contact with ppt kits. Most of the respondents 69.7% of the dental practitioners responded to yes in utilisation of salon or beauty parlour during COVID pandemic. Maximum 71.21% of the dental practitioners responded yes in purchase of personal materials or any other household applications during COVID-19 pandemic. Majority that is 68.18% of dental practitioners responded yes to purchasing dental materials or equipment while 31.62% of them responded no during the pandemic. No option was responded to by major respondents. As many dental practitioners contacted through online consultancy, so as to clear this, a questionnaire regarding being paid for online consultancy was made. Figure-6 represents whether they practice dentistry during the pandemic. More than half, 60.61% of dental practitioners responded yes in practising dentistry during COVID pandemic and 39.96% responded no, they are at least available for online consultancy or any emergency cases. Figure-7 represents the income change during the pandemic. 63.64% of the participants reacted to the increase in income and 36.36% of the participants responded to decreased income during the pandemic. Figure 8 bar chart shows association between responses based on gender and whether they use personal protective kits while handling patients in pandemic, more number of males(46.97%) responded to usage of ppt kits while handling patients than females(39.39%). Figure 9 bar chart shows association between responses based on gender and whether they practice dentistry during pandemic, more number of males(31.82) responded to yes in practice of dentistry during pandemic than females(28.97%). Figure 10 bar chart shows association between responses based on gender and whether they reduced their working hours in a pandemic. It's clear that more females (39.39%) responded that they reduced their working hours than males(36.36%) during the pandemic. The difference in the economic impact of COVID-19 among male and female participants was not significant ($p>0.05$).

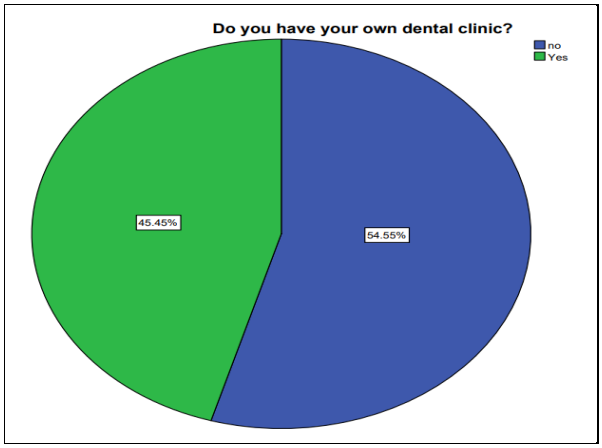

FIGURE-1: pie chart representing the percentage of whether they have their own dental clinic. 45.45%(green) of them had their own dental clinic and 54.54%(blue) of them didn't have their own dental clinic.

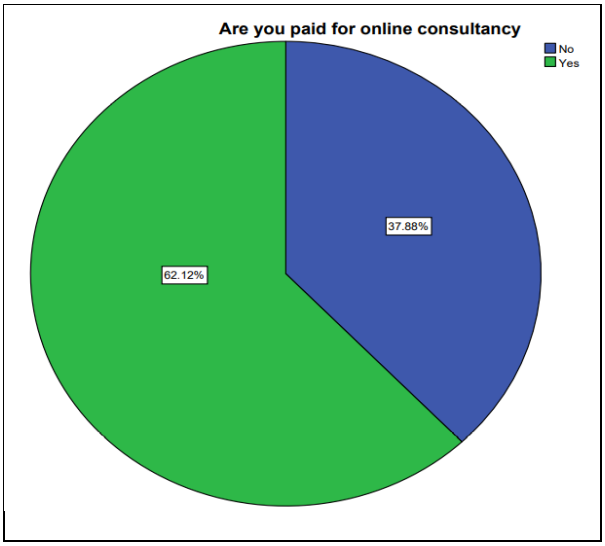

Figure 2: Pie chart representing whether they were paid for online consultancy. 62.12%(green) of them were paid and 37.88%(blue) of them were not paid for online consultancy.

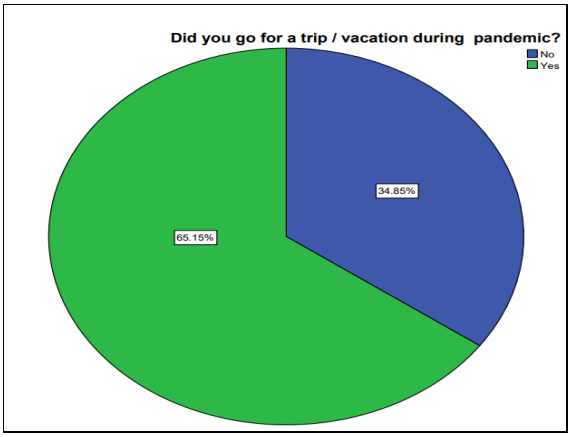

Figure-3: pie chart representing the percentage of whether they went on a trip/vacation. 65.65%(green) of them went on a trip and 34.85%(blue) of them haven't gone on a vacation.

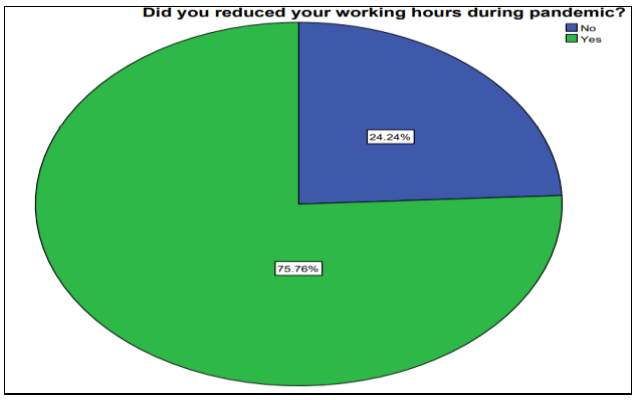

Figure-4: pie chart shows the percentage of whether they reduced their working hours during the pandemic. 76.76%(green) of them reduced their working hours and 24.24%(blue) haven't reduced their working hours.

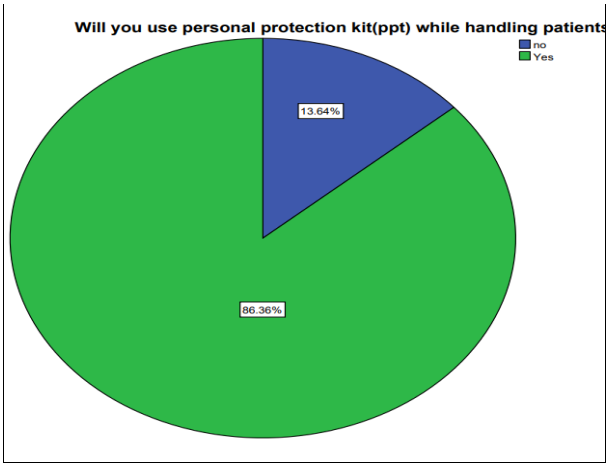

Figure-5: Pie chart representing the percentage of whether they use a personal protective kit while handling patients. 86.86%(green) of them were using and 13.64%(blue) of them weren't using personal protective kits during handling patients.

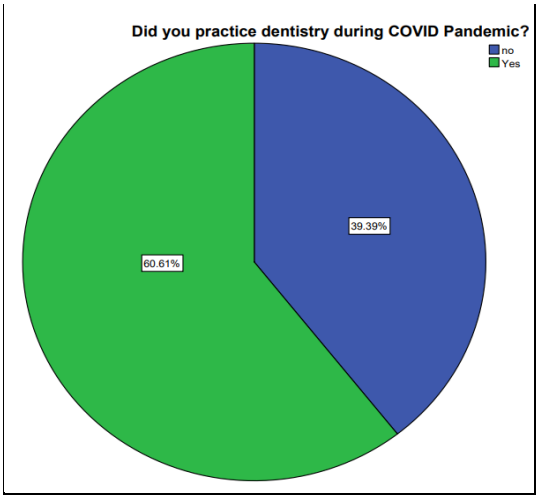

Figure-6: Pie chart representing whether they practice dentistry during a pandemic. 60.61%(green) of them were practicing for dentistry and 39.39%(blue) weren't practicing during the pandemic.

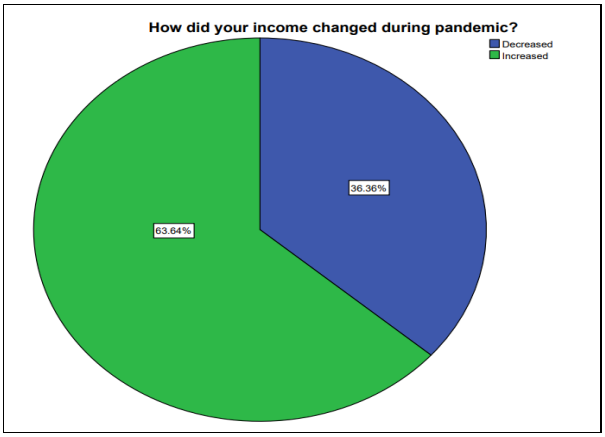

Figure-7:pie chart representing the income change during the pandemic. For 63.84%(green) of them had their income increased and 36.36%(no) of them had decreased in income.

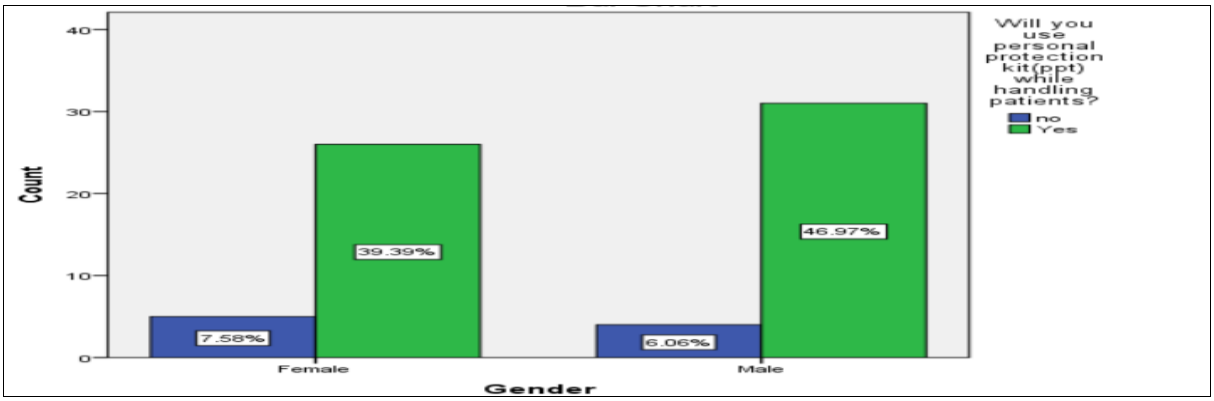

Figure 8-The above bar chart shows association between responses based on gender and whether they use personal protective kits while handling patients in pandemic X axis represents gender and Y axis represents count in percentage. More males have been using personal protective kits than females. Blue colour denotes No and Green colour denotes Yes. Most of the males and female participants use personal protection kits while handling patients. The difference between males and females was statistically not significant (Chi-square test ,p value =0.421 - not significant).

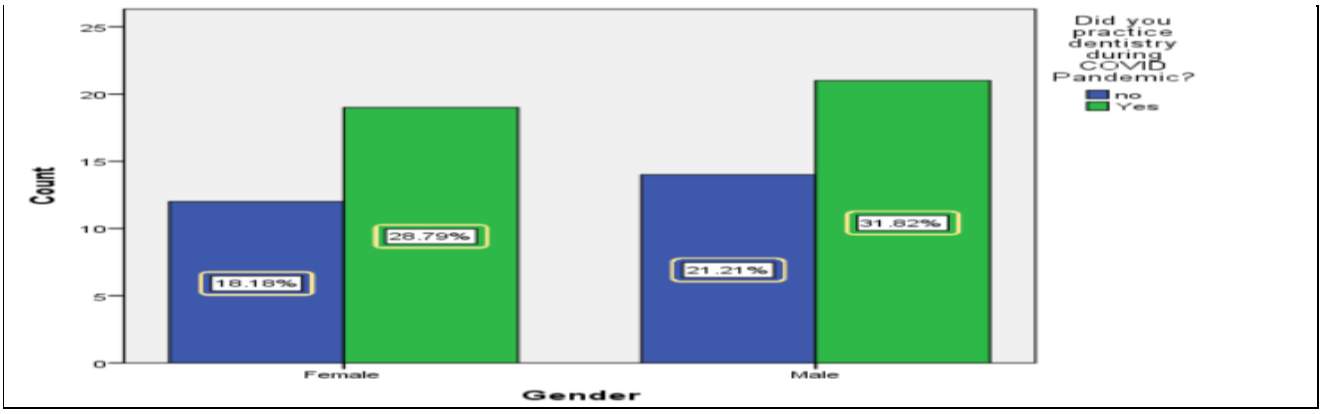

Figure 9-The above bar chart shows association between responses based on gender and whether they practice dentistry during pandemic X axis represents gender and Y axis represents count in percentage. The above graph shows that more males have been practicing dentistry during the pandemic. Blue colour denotes No and Green colour denotes Yes. The difference between males and females was not statistically significant (Chi-square test ,p value =0.559 - not significant).

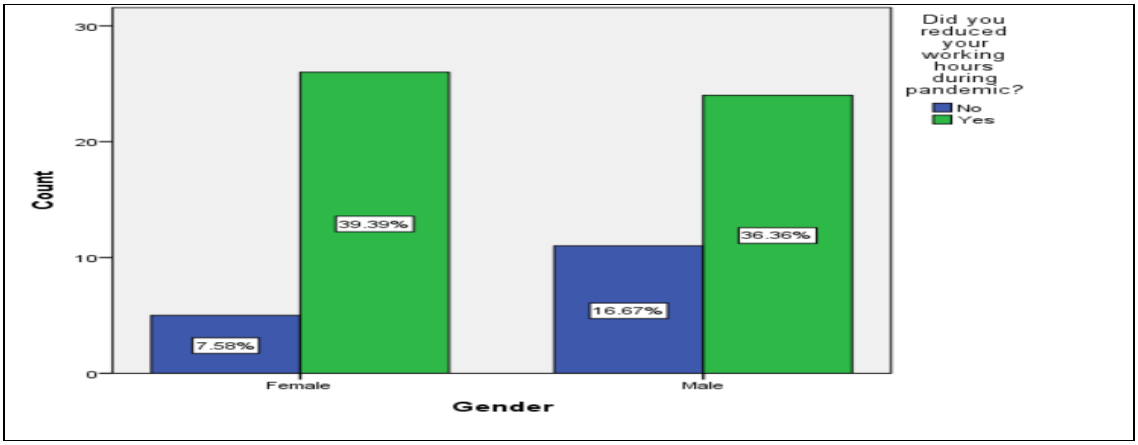

Figure10-The above bar chart shows association between responses based on gender and whether reduced their working hours in pandemic X axis represents gender and Y axis represents count in percentage. This shows that more females have reduced their working hours. Blue colour denotes No and Green colour denotes Yes. The difference between males and females was not statistically significant (Chi-square test ,p value =0.123 - not significant).

DISCUSSION

The result of this study showed that COVID-19 had a negative impact on dental practitioners. Most of the dracting COVID-19 with patients (Lahariya, 2020). The Majority of respondents that are dental practitioners were observed with an increase of income during COVID-19 pandemic(Winston, 2019). Previous research done in relation to this was on dental students. In their research 49% of them were concerned about financial status and some reported an increase of anxiety and stress during a pandemic due to lockdown (Adelhoefer *et al.*, 2021). This research was concerned with a demographic difference between DMD students and orthodontic residents. The residents were more concerned about contre fond to come in contact with the patients through whatsapp or through phone calls only few were on direct contact and most of them were paid for online consultancy.

Previous research done on the impact of COVID-19 on dental practitioners in Iran only few went for emergency cases (Safari *et al.*, 2021). 70% of them did not perform emergency cases and also decreased their working hours. Also 46% in Iran most of the dental clinics were closed due to the sudden outbreak of coronavirus. In this study it was found that most dental practitioners went through online consultancy and reduced working hours. The limitation of this study is that a limited population was included and a convenience sampling method was employed. Further studies with larger populations need to be employed to extrapolate the results.

In another study with comparison among gender overall mothers have reduced work time significantly more than fathers. This is especially true for those with pri- mary school-age or younger children in the home for whom caregiving and homeschooling demands were intense. Two of those papers tested the possible effect of the COVID-19 pandemic in particular countries. One Of those, from Iran, highlighted the function of unpredictability, uncertainty, seriousness of the disease, incorrect information and social isolation in contributing to strain and intellectual morbidity.

The authors highlighted the for services, for prone populations, and the strengthening of social capital to lessen the unfavourable mental effect of the outbreak. Another, from Japan, emphasized the monetary effect of COVID-19 and its consequences on well-being, in addition to the possibly excessive stages of worry and panic behaviour, along with hoarding and stockpiling of resources, withinside the trendy population. This paper additionally recognized populations at better chance of unfavourable intellectual fitness outcomes, which includes sufferers with COVID-19 and their families, people with present bodily or psychiatric morbidity, and healthcare workers.

In another research they tracked down that the COVID-19 pandemic has influenced the quantity of pediatric dental methods completed in Primary Health Care in Brazil. This decrease is of concern since youngsters more helpless and with the higher weight of oral illness are left without dental consideration because of the pandemic, which could demolish oral medical issues and increase incongruities.

In another article pediatric dental specialists everywhere in the world are confronting extraordinary difficulties in keeping away from disease and creating pediatric crisis administrations in the flow setting of COVID-19 with vulnerability and successive change. Powerful dental crisis emergency with youngsters can limit the strain of clinical assets and guarantee the security of medical services experts, kids, and guardians.

CONCLUSION

Most of the dental practitioners followed safety protocols by using personal protective kits or by reducing most working hours. By this study it was identified that COVID pandemic had a moderate effect on the economic profile of dental practitioners.

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CONFLICT OF INTEREST:

All the authors declare that there was no conflict of interest in present study.

AUTHORS CONTRIBUTION:

S.Jeswin Immanuel: literature search, data collection, analysis, manuscript drafting.

Dr.Arthi :Data verification, manuscript drafting

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