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ORIGINAL ARTICLE

Awareness and Readiness of Dentists to Practice amidst the Covid-19 Pandemic in Pakistan

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ABSTRACT

Background: Corona Virus spreads via droplets and air. Dentists are at high risk due to proximity to the oral cavity and the production of droplets during procedures.
Aim: To assess awareness of COVID19 among dental professionals and check their knowledge about the COVID-19 disease, its route of spread, clinical symptoms, tests for diagnosis, prevention in dental practice for a safe return to the dental practice.
Methods: Online questionnaires were shared with dentists all over the country using convenience and snowball sampling. The questionnaire assessed knowledge, aptitude and effect on dental practice. SPSS, v. 21.0 was used for analysis.
Results: Total number of participants was (316) and were from all provinces of the country (Punjab, Sindh, Baluchistan, KPK, Gilgit Baltistan). Most of the entries were from Sindh province (58.1%). Most of the participants are qualified as BDS(69.4%), 11.7% are FCPS, 5.7% are BDS with additional certifications. Participation from the age group 20-30 years was 74% followed by 18% of the age group 30-40.
Conclusions: Dentists of our country were well aware of this pandemic and are fully equipped to manage their practices while preventing cross-contamination.
Keywords: dentists, COVID-19, pandemic, Personal protective equipment

INTRODUCTION

Coronavirus disease 2019 also known as COVID-19 is a viral disease that has affected almost every country of the world[1,2]. Due to the contagious nature of this virus, educational, industrial and healthcare facilities had to face a lot of downfall due to the lockdowns in many countries. Pakistan is also badly affected by this virus. Medical and dental schools were locked down many times and students had to shift to the online method of learning and teaching[3]. Causing organism is Severe Acute Respiratory Distress Syndrome Coronavirus-2 (SARS-CoV-2)[4]. On January 30, 2020, the World Health Organization International Health Regulation emergency committee declared the disease a Public Health Emergency of International Concern. It was declared a worldwide pandemic on March 11, 2020[5].

Human to human transmission of COVID-19 is believed to occur through respiratory fluids such as mucus. Coughing and sneezing, touching or shaking hands with an infected person, or making contact with a surface or object that has the virus and then touching the nose, eyes, or mouth can transmit this disease[6]. This lead to worldwide adaptation of social distancing, self-quarantine, imposing curfews, lockdowns, and restrictions on gatherings including, religious and social events and shut down of schools, colleges and universities for an undefined period as uncertainty prevail.

Dental colleges have suspended all patient care by undergraduate students and academic teaching is being shifted to online platforms using social media, WhatsApp groups, virtual small group discussions, recorded lectures or online streams and use of websites for providing resource materials and conducting assessment[7].

The incubation period is almost 1 to 2 weeks with the median being 4 days to 7 days[8]. The presenting symptoms include fever, fatigue, dry cough, myalgias, dyspnea, and sometimes watery diarrhea[9]. Some cases present asymptomatically so those are difficult to pick clinically and remain the source for the spread of the Corona virus[10]. Dentists directly work in the mouth so they are at a higher risk to contract the infection. Good knowledge of its spread and its preventive measures are necessary to work in this pandemic.

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MATERIAL AND METHODS

Approval was taken from the Institutional Ethics Committee of University Dental college, the University of Lahore. The questionnaire link was shared with the dentists by using Google forms. On the start page, consent for participating in this study was taken. Those who gave their consent by pressing the “Next” button were forwarded to the page where personal information regarding qualification and experience was taken. Participants were assured of its confidentiality since only the author had access to the data. Participation in this study was ensured when the “Submit” button was pressed at the end while answering all questions.

The study duration was from 12th June to 22nd June 2020. Convenience sampling (researchers directly contacted dentists via social media for participation in the study) and snowball sampling (participants were requested to spread the word among other dentists) were implied for maximal participation. Dentists were contacted through social media platforms to fill the online questionnaire. It had 4 parts containing 25 questions. The 1st part was for personal information (Province, highest qualification, current mode of practice and experience), while the other parts had questions relating to knowledge about COVID-19, attitudes and effect on dental practices during COVID-19. IBM SPSS for Windows, v. 21.0 (IBM Corp., Armonk, USA) was used for analysis[13].

RESULTS

Three hundred and sixteen dental practitioners participated. Analysis of the data was conducted on IBM SPSS for Windows, v. 21.0 (IBM Corp., Armonk, USA). Most of the participants are younger i.e. 74% and have less clinical experience but the result shows that they are much aware of the current protocols of managing patients in a pandemic situation. Results also show the effects of the situation on the clinical practice of dentists around the globe because of this contagion.

Results are analyzed according to demographics, experience and qualifications, perceptions towards COVID-19, and knowledge about recent protocols towards COVID-19.

Figure 1: Demographics:

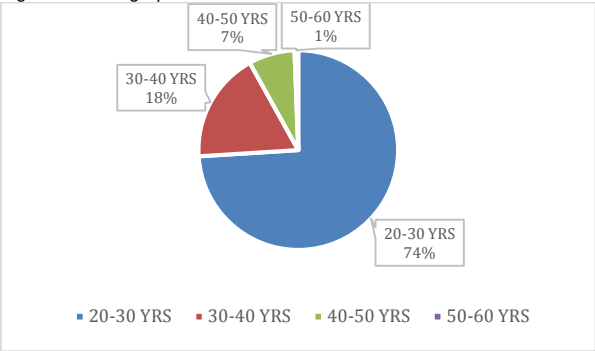


Figure 2: Qualifications of participants

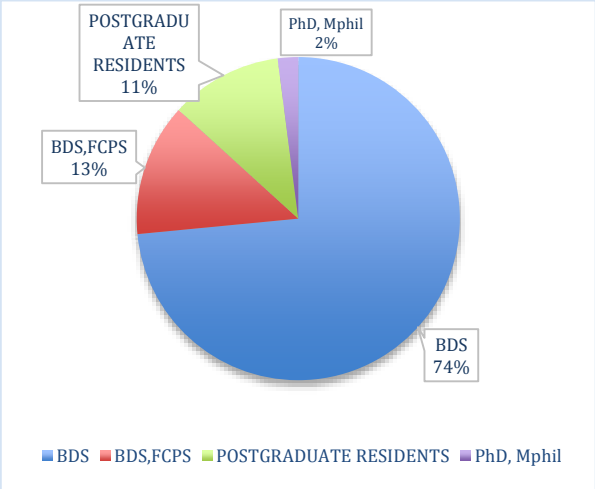


Figure 3: Experience of participants

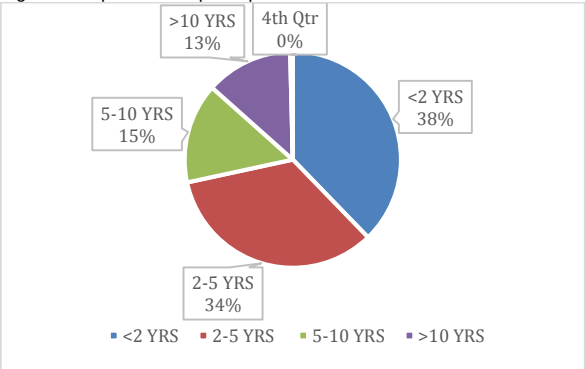


Figure 4: Position of participants

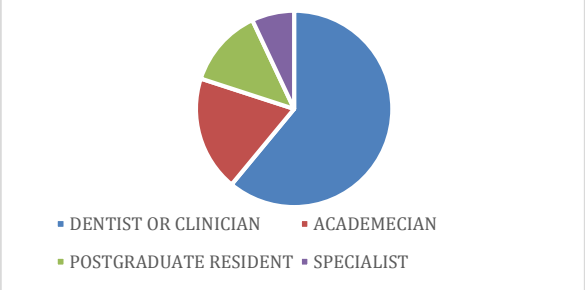


Figure 5: Knowledge about mode of transmission

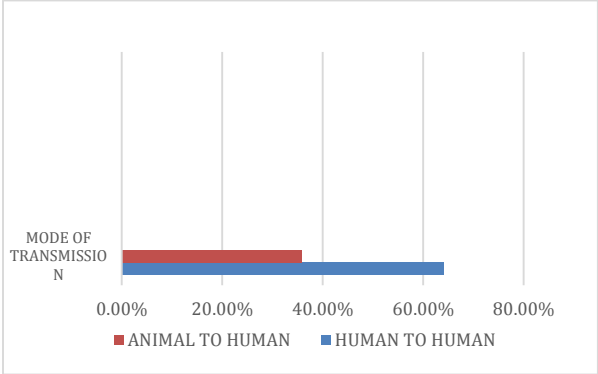


Figure 6: Questions about COVID-19 with responses

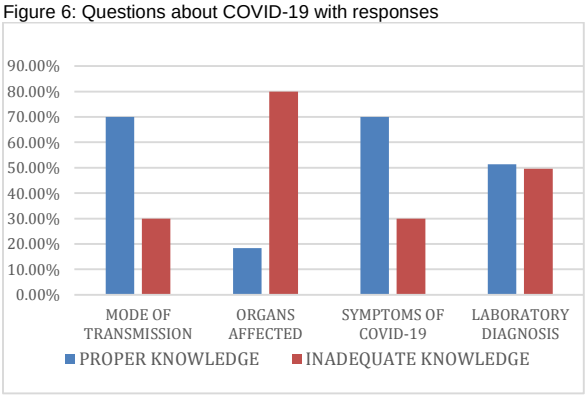


Figure 7: Questions with responses

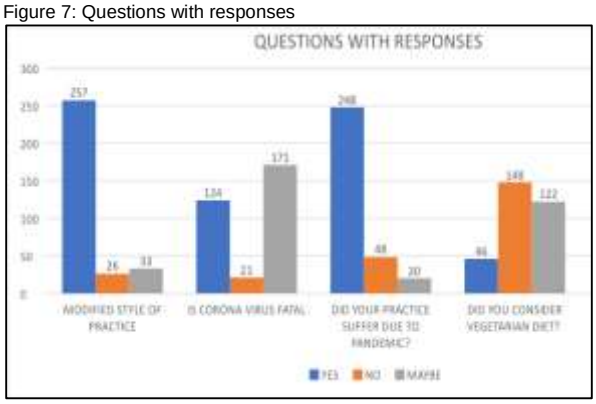


Figure 1 knowledge about the laboratory test to confirm COVID-19

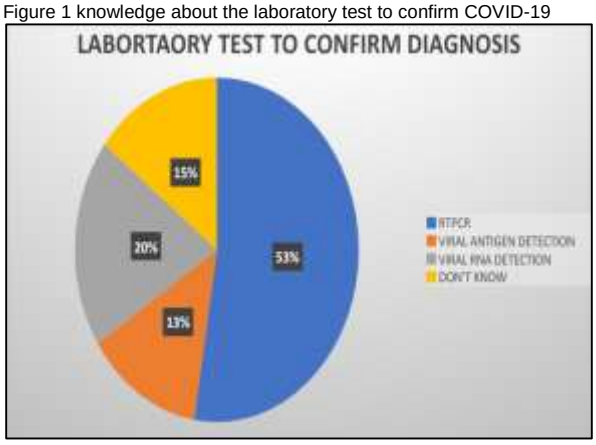
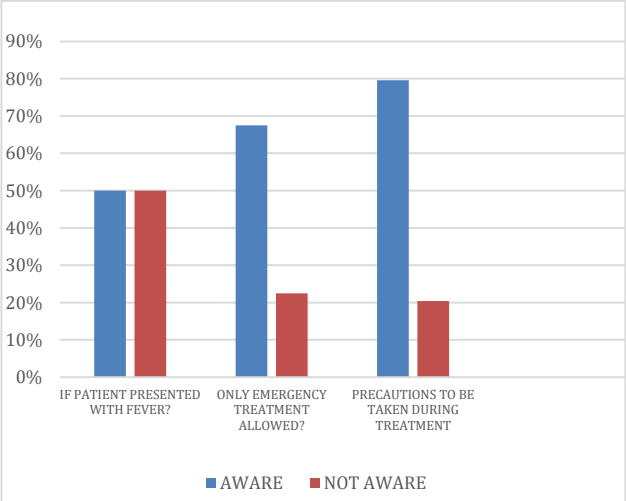


Figure 2 knowledge about the current protocols to handle the COVID patients



DISCUSSION

All healthcare professionals are at a higher risk to contract this virus. As the dentists work in the oral cavity and mostly procedures generate the aerosols so the dentists are at relatively higher risk. In fact, in a recent analysis by the US Larur Statistics O* Net Bureau, dentists were identified as a high-risk medical group for COVID-19.

This is why this study was planned to find the awareness of dentists about the knowledge of Coronavirus, its mode of spread, and its preventive measures. The results of this study showed that almost all dental professionals were aware of the COVID -19 infection. According to the analysis of this study, a total of 316 people participated out of which 54.2% of the participants belonged to Sindh province, 36.8% were from Punjab, 1.2% were from Khyber Pakhtunkhwa, 3.1% from Federal territory, 0.9% from Baluchistan and 1.5% from other regions of Pakistan. The age group of 235 participants was between 20 – 30 years, 57 participants were between 30 – 40 years of age, 2 participants were from 50 – 60 years age group and 24 participants were from 40 – 50 years of age group.

Most of the participants are qualified as BDS are 69.4%, 11.7% are FCPS, 5.7% are BDS with additional certifications, 11% are postgraduate residents in different specializations of dentistry, 2% are Ph.D. and MPhil degree holders. The majority of the participants were from the dental professional community, 192 being general dental practitioners, 60 were academicians, 46 were post-graduate residents and 16 were related to the specialized field of dentistry. According to the majority of the result of participants, clinical experience is less than 2 years,104 participants clinical experience is 2-5 years, 46 participants experience ranges 5-10 years and 40 participants were having more than 10 years of experience.

The study was carried out to check different perceptions of people especially from the field of dentistry related to Covid-19. According to the study, 64.1% of the dentists know about the exact mode of transmission, that is from human to human. Qun li et al. took data of 425 confirmed COVID positive cases for epidemiological study and concluded that human to human transmission has played a major role in disease spread since the middle of december[11]. 5.6% of participants knew that the transmission is airborne, through surface contact and droplets. The study conducted in Singapore by Sean Wei Xiang Ong et al confirms air, surface environmental contamination[12].. When asked about the major system that gets affected due to COVID-19, only 18.3% of the dentists knew that it affects the lower respiratory system. SevimZaim et al stated through their paper the multi-organ impact of this disease most frequently manifesting as pneumonia[13].

About the symptoms and laboratory diagnosis, 70% and 51.4% of the dentists were aware of the correct answer, respectively, which was RT-PCR. Shailendra K. Saxenahas showed the proper method of laboratory diagnosis of COVID 19 by nuclear acid amplification testing such as Real-time PCR[14]. As far as fatality is concerned, about 52.9% of dentists considered COVID-19 as a fatal disease, and approximately 5% knew about the current mortality rate, which is 2%. The mortality rate varies among countries as International analysis by Jaffar A. Al-Tawfiq shows mortality rates of COVID 19 in Italy(13.1%), Iran(6.3%), China (4%), Korea (2.1%) and Singapore(0.3%)[15]. 43.8% of people negatively responded about the use of a vegetarian diet. 47.4% of participants knew about the protocols when a patient presented them with fever, i.e. is to refer them to a medical specialist as soon as possible. Sumeet Gupta et al concluded that if any of the signs ranging from fever to shortness of breath appear the patient should be rescheduled and asked to consult a physician[16].

A majority of the dentists (67.5%) believed that only emergency procedures can be done in this pandemic. Cristóbal Araya cautioned dental professionals to defer dental treatment as long as possible during this pandemic[17]. About the precautions used during this pandemic while treating the patients, almost all participants responded with the use of PPE, extraoral radiographs, face shield, avoid triple syringe and droplets. Ali Alharbi et. Al has advised the use of protective equipment as mandatory during this pandemic[18].

In case of patients suspected of coronavirus infection, one hundred and sixty participants said they will defer the procedure for two weeks, one hundred and fifteen participants said they will treat the suspected patient in a separate room with good ventilation and forty participants said they will treat the patients as per routine but wearing the PPE and taking other protective measures. As WHO guidelines for the prevention of Tuberculosis in healthcare facilities state that it is mandatory to perform treatment in a negative pressure room where the flow of air is from hallways into isolation rooms to stop cross-contamination[19]. When asked about have they modified their routine practice during the current pandemic, 79.6% of participants responded with yes, 8% of participants responded no, and while 10.2% of participants responded with maybe. Aqeel et. Al through questionnaires among dental professionals of the subcontinent and gulf reported that 90% were aware of the latest WHO guidelines for cross infection control[20]. Khader et al. put out questionnaires to Dental practitioners of Jordan and reported 92.9 percentage of their participants that were aware of WHO guidelines for cross-infection control[21]. Those participants whose response was yes when asked about modifications majority of them responded

- As rearranging waiting area for social distancing
- Organized appointments for adequate disinfection between subsequent patients
- The Clinic opened on alternate days
- Screening of all walk-in patients for Covid-19
- Wearing PPE
- Deferred all elective treatments till resolution of this pandemic
- Brought extra oral suction

The same measures answered here have been described by Zhou et al. for protection against coronavirus infection in a dental set up[22]. For irrigation best option would be 55.7% percent responded as they would prefer using a disposable syringe, 40.6% would prefer using a triple syringe with PPE's and 1.5% would prefer using a triple syringe. Falcón-Guerrero et al. has also discouraged the use of Dental Triple syringe for irrigation and drying as it causes the droplets and its spread in the air[23]. Center for Disease Control has given their Interim Infection Prevention and Control Guidance for Dental Settings During the COVID-19 Response in which they advised to avoid procedures that generate aerosols like a triple syringe, handpiece, and ultrasonic scaler[24].

CONCLUSION

Results show almost half of the participants know the recent protocols and preventive measures to practice in this COVID-19 pandemic. Emphasis should be given to continuously educating our general dentists and undergraduate students about the preventive measures against this virus and the ways of safe practice amidst this pandemic.

Conflict of interest: Nil

Author contribution: EH: Research Concept and Design, Final Approval of Article and Critical Analysis, **AL:** Collection&Assesmbly of data, **MN:** Data analysis & Interpretation, **SA:** Writing the article, **SH:** Critical Revision of Article, **WA:** Data Collection

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