



THE ASSESSMENT OF THE PREPAREDNESS ABOUT COVID-19 AMONG THE GENERAL DENTAL PRACTITIONERS LOCATED IN LUCKNOW (UTTAR PRADESH)

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ABSTRACT

Introduction: The first case of the Novel Corona Virus in Indian subcontinent was reported on 30th January 2020.⁵ The initial ongoing infectivity window of the total number of cases being reported in India is 1.7 million which is astonishingly lower as compared to the worst affected countries in the world. Hence this study aims to assess the preparedness about Covid-19 among the general dental practitioners located in Lucknow city. **Methods:** A cross-sectional questionnaire study was conducted to assess the knowledge and preparedness regarding COVID-19 among the dental practitioners of Lucknow (Uttar Pradesh), India. The sample size was calculated to be 408 taking in account the sample population of the total number of registered dentists. A confidence interval(z) of 95% and a marginal error(e) of 5% was taken. The statistical test Pearson's Chi-Square was used to check the association with qualification, gender, age. **Result:** The present cross-sectional study was done among the dental practitioners of Lucknow city. The study comprised of 408 participants of which 46.3% (189) were males and (53.7%) 219 were females. Most of the answers showed high level of significance to education. Knowledge and practice seem to be related to education, whereas little significance was observed with gender. **Conclusion:** In the current study most of the study participants used the personal protective equipment.

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INTRODUCTION

“COVID-19” disease was alarmingly identified as a world widePublic Health concern on January 2020 by the World Health Organization. The disease was further emphasized by its declaration as a pandemic which had affected more than 185 countries and territories all across the globe on the 11th March 2020.^{1,2} It is an infective disease caused by the severe Acute Respiratory Syndrome Corona Virus 2 (SARS-CoV-2).³ The virus is thought to have originated from the wet markets of Wuhan, China in December 2019.⁴

The first case of the Novel Corona Virus in Indian subcontinent was reported on 30th January 2020.⁵ The initial ongoing infectivity window of the total number of cases being reported in India is 1.7 million which is astonishingly lower as compared to the worst affected countries in the world.⁶

Symptoms of COVID-19 disease can be apparently non-specific and infected individuals may surprisingly be asymptomatic. Two of the most common symptoms associated with the disease are evidently fever and dry cough. Symptoms that are less specifically encountered in the affected patients include fatigue, respiratory sputum production, a vulnerable

loss in the sense of smell and taste, breathlessness, precise pain of the joints and muscles, sore throat, headache, chills, vomiting, hemoptysis, and diarrhea.^{7,8,9}

Though the spread of the disease is predominantly the contamination through an infected individual, the ability of the virus to sufficiently survive in unfavorable conditions and surfaces also readily increases the susceptibility of the host cross transmission and infection.¹⁰ The micro-particulate spread of the infection is facilitated by the droplets that are produced while coughing or sneezing.¹⁰

Hence this study aims to assess the preparedness about Covid-19 among the general dental practitioners located in Lucknow city.

METHODOLOGY

A cross-sectional questionnaire study was conducted to assess the knowledge and preparedness regarding COVID-19 among the dental practitioners of Lucknow (Uttar Pradesh), India. The study was conducted among dental practitioners in Lucknow, (Uttar Pradesh), India. The information about the registered dental professionals was obtained from the official online portal of the Dental Council India. The sample size was calculated to be 408 taking in account the sample population of the total number of registered dentists. A confidence interval(z) of 95% and a marginal error(e) of 5% was taken. Convenience sampling was done for the selection of the

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sample population. Telephonic consent was taken from the participating dental practitioners who were included in the study. Inclusion criteria (1) Dentists who are practicing dentistry in private dental clinics in Lucknow. (2) Who have a minimum academic qualification of Bachelor of Dental Surgery, from a recognized University. Exclusion criteria (1) Dental practitioners who did not give consent for the study. A 14 variable, structured, close ended questionnaire was prepared on Google forms, which was in English language. A pilot study was conducted on 45 dental practitioners to check the content validity and the face validity of the questionnaire. The reliability of the questionnaire was determined using the Cronbach's alpha. The Cronbach alpha value came up to be 0.82. The statistical test Pearson's Chi-Square was used to check the association with qualification, gender, age. The data analysis was done using the SPSS version 20.

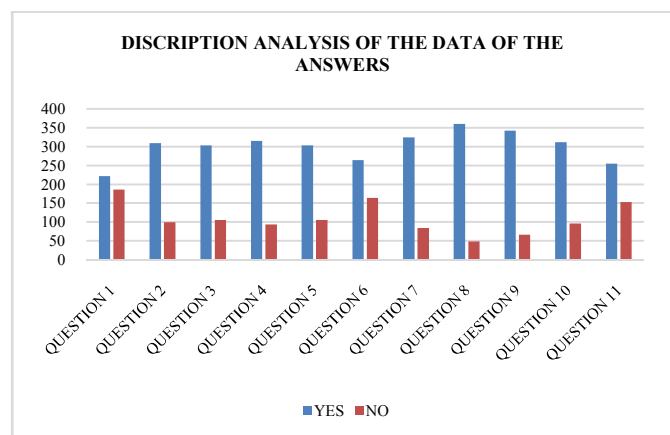
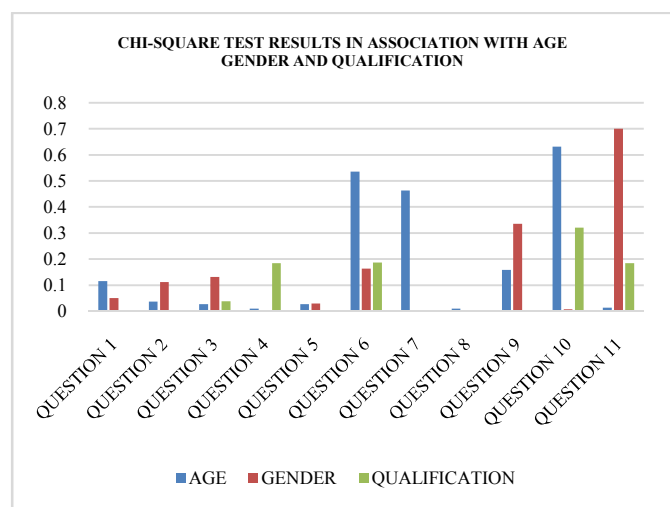
RESULT

The present cross-sectional study was done among the dental practitioners of Lucknow city. The study comprised of 408 participants of which 46.3% (189) were males and (53.7%) 219 were females.

45.6% (186) of the participant were B.D.S (Bachelor of Dental Surgery) and 54.4% (222) were M.D.S (Master of Dental Syrgery). The socio-demographic data of the participants are given in table 1.

Table 1 sociodemographic table

Highest academic qualification	Percentage	Gender	Percentage
B.D.S	45.6%	MALE	46.3%
M.D.S	54.4%	FEMALE	53.7%



54.4% (222) have a sign at the entrance of dental clinic, with instructions related to symptoms of COVID19. 75.7% (309) recorded detailed travel history from the patients. 74.3% (303) recorded temperature reading as a part of routine examination. 77.2% (315) used personal protective equipment when carrying out dental procedure. 88.2% (360) used soap or 60% alcohol sanitizer after contact with patients. 83.8% (342) used N95 mask when performing aerosol equipment. Chi square test applied; p<0.05

Most of the answers showed high level of significance to education. Knowledge and practice seem to be related to education, whereas little significance was observed with gender.

Cleaning & disinfection showed no association with either gender, age or highest education. Use of N95 mask was associated with education but not with gender or age. Low level of significance was noticed with use of aerosol producing equipment.

DISCUSSION

In late December 2019, a pneumonia of unknown cause was first reported in Wuhan City, China⁸. The World Health Organization (WHO) later named the disease the coronavirus disease (COVID-19). COVID-19 caused by the novel coronavirus, also known as severe acute respiratory syndrome coronavirus 2 was linked to a seafood and wild animal wholesale market in Wuhan, Hubei Province, China⁹. COVID-19 has since rapidly spread across the world with multiple countries and was declared a global pandemic on March 11, 2020, by the WHO¹⁰.

In a study done in Olum R *et al*¹¹ in Uganda, Africa the knowledge was high in medical professionals. knowledge among Iranian population Taghrir MH *et al*¹² was 89.96%. In a similar study done by Wadood MA¹³ *et al* in Bangladesh the knowledge was found to be 10.5%.

Our study results were similar to a study done by Indu m *et al*¹⁴ in Kerala According to the research work of Zhou M *et al* among health care workers in Henan, China 89.7% followed correct practices regarding COVID-19.¹⁵

The vast majority of respondents 74.3% indicated that patients must have their body temperatures measured before any dental procedure is performed which was lesser than a similar study conducted by Khalifa S in Saudi Arabia where 92% of the respondents indicated checking body temperatures was essential before performing and dental treatment.¹⁶

Nearly 83,3% of the dentists in the current study were well versed with the type of mask to use and were ready to use the N95 mask especially when dealing with COVID-19 patients which was similar to a study conducted by Suraj A where almost 85% of the practicing dentists had the similar knowledge.¹⁷ Whereas the study results were much higher than a study conducted in Turkey by Duruk G which reported that only 12% participants using N95 respirators.¹⁸

77.2% of the respondents in the current study actively agreed to performing adequate personal protection procedures which was similar to a study conducted by Alekhya Kanaparthi *et al*.¹⁹ In a study conducted by Khader *et al* 90% of the respondents agreed that gloves, mask and goggles can be effective in preventing transmission of COVID-19 which was much more

than the current study where only 78% of the respondents had a similar response.²⁰

The majority of the dentists i.e 64.7% were aware that the dental procedures involving the use of ultrasonic scalers and high-speed handpieces carry the maximum risk of transmission of the virus along with aerosol particles which was found to be similar to a study conducted by Suraj A *et al* where more than 70% of the respondents had the same opinion.¹⁸

Preprocedural mouth rinse: previous studies have shown that SARS-CoV and MERS-CoV were highly susceptible to povidone mouth rinse¹¹. Therefore, preprocedural mouth rinse with 0.2% povidone-iodine might reduce the load of corona viruses in saliva Another alternative would be to use 0.5-1% hydrogen peroxide mouth rinse, as it has nonspecific virucidal activity against corona viruses.²⁰

SARS CoV-2 can remain viable in aerosol and survive up to 3 days on inanimate surfaces at room temperature, with a greater preference for humid conditions.¹⁴ Therefore, clinic staff should make sure to disinfect inanimate surfaces using chemicals recently approved for COVID-19 and maintain a dry environment to curb the spread of SARS-CoV-2.²²

According to Center of Disease Control, the governor's office and the California Department of Public Health, CDA is advising dental practices to limit patient treatment to emergency care only due to the COVID-19 pandemic. It is recommended that dentists practicing in California voluntarily suspend non-emergent dental care at this time.

The recommendations mentioned do not hinder the dentists from seeing patients that they determine to have a condition needing emergency dental care. Dental emergencies should be evaluated on a case-by-case basis to determine the appropriate and necessary timing of in-person treatment.²³

CONCLUSION

Dental practitioners are the most vulnerable group to be infected by the corona virus. The dental health care professionals need to understand the transmissive behavior of the novel (SARS)-CoV-2 virus. In the current study most of the study participants used the personal protective equipment. The study participants performed various protocols such as monitoring of the temperature, use of soap and sanitizer and providing instructions regarding the awareness about Covid-19 to the patients. But there were lesser number of practitioners who were aware of high speed evacuation devices which could reduce the spread of the virus through aerosols.

Limitation

The study aims at the assessment of the knowledge of the preparedness about covid-19 among the general dental practitioners located in Lucknow Uttar Pradesh. Since the respondents are practicing dentists there might be respondent bias. The sample size acquired for the study is comparatively small and there is a further scope of similar studies with more number of study participants.

Recommendation

The awareness about devices reducing aerosol production is still lacking among the practitioners and more

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