

Dentistry During Pandemic (Covid-19) In And Around Kolkata

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Type of Publication: Original Research Article

Conflicts of Interest: Nil

Abstract

Many patients who are asymptomatic may be carriers. So prior precaution is mandatory. Try to avoid non-emergency treatment. Use of rubber dam isolation minimizes the risk of contamination. Use of PPE kit and rest of the precautionary measures increases the treatment cost which is again a challenge for both dentist and patient.

Keywords: PPE kit, Covid 19, CBC, PCR, fumigation, Hypochlorite.

Introduction

So we have taken an online survey in and around Kolkata, Maharashtra, India about how dentists are managing their current practice and what all procedures they are following. Total 250 forms collected from different branches of dental operators. Most of them are carrying out aerosol procedures under rubber dam isolation with proper PPE kit and precautions. This survey consists of hygiene, procedure and

protocol with respect to dental procedures in dental office by dental operators.

According to this survey 75% dentists follow rubber dam isolation in aerosol procedure, and for non-aerosol its 50%. About 68% dentists follow pre-treatment diagnostic tests like CBC (Complete Blood Count), PCR (Polymerase Chain Reaction) and vital parameters with SpO₂ levels. After treatment all dental operators follow standard procedure for sterilization of dental office like fumigation, use of 1% hypochlorite spray or tablets forms of fumigation.

Material and Method

The survey study included 250 participants, data collected from online survey form in and around Mumbai, Maharashtra, India. All branches of dentistry were included in the survey. A structured custom-made questionnaire composed of fifteen questions was designed to assess the precautions, procedure and hygiene maintained by dentist in dental office.

Exclusion Criteria

Dentists not willing to participate in study.

Dentists who are not operating / functioning in current pandemic (COVID-19).

No Hygienist included in study.

Inclusion Criteria

All working dentists in current pandemic in and around Kolkata.

Willingness to participate in the survey.

Dentists from all branches.

The eligible and willing dentists received the self-explanatory structured questionnaire in online format. Data was tabulated and analyzed using SPSS version 11.5 (SPSS 11.5 for windows). Analysis initially was performed with Chi-square test for frequency, precautions and methods, with the independent samples t-test used for assessing mean score differences along with Pearson's correlation coefficient.

Result

Total 250 forms received by dentists in and around Mumbai. In total of 250 dentists 43.7% were graduated with dental degree and 56.3% were post graduates. In this present survey 73% dentists use rubber dam isolation for aerosol procedures, 23% do not use any precautions, 4% dentists use rubber dam only in suspected cases. Nearly 55% dentists are not comfortable using rubber dam isolation, remaining 45% use different brands of rubber dam kit which are available in the market (Hygienic 32.8%, GDC 53.1%, Optradam 11.7%). There are different methods to apply rubber dam, in this survey we recorded that 40.6% dentists use dam first technique, 35.2% dentists use clamp 1st technique and 24.2% dentists use both clamp and dam together technique. Consideration regarding non-aerosol procedures 50.8% dentists use rubber dam and 49.2% dentists do not use rubber dam. According to the received data 76.6% dentists think that rubber dam isolation

provides lesser chance of contamination whereas 19.5% have mixed thoughts over it and 3.9% consider that it is of no use. 80.5% dentists are finishing the work in single visit only if its manageable, 19.5% operators follow multiple visits wherever required.

When it comes to taking precautionary measures before or while operating the patient 67.2% dentists follows necessary guidelines like PPE kit, Blood tests, Vital parameters and SpO2 levels of patients where 16.8% use only PPE kit and 12.8% use temperature check and SpO2 levels. For sterilization 40.6% dentists use fumigation, 35.2% use hypochlorite spray, 20.3% use fumigation tablets and 3.9% use all methods mentioned above.

Many dentists have a smaller operating area, only 71.9% participants have separate room for donning and doffing whereas 25.8% mentioned that it is difficult to manage in smaller area. 41.4% of dentists use single PPE kit per patient and 58.6% use same PPE kit with proper sterilization for multiple cases. While doing the operatory procedure 63.6% dentists believed to use air- purifier, 36.4% dentists are in dilemma.

Discussion

Amongst dental procedures only emergency treatment should be initiated rather than esthetic or prosthetic. Dentist should follow proper guidelines given by health ministry of nation.

Most of the dentists are not used to or not comfortable to work under rubber dam isolation. In the received data 54.2% dentists are comfortable with rubber dam whereas 45.8% struggle while working under rubber dam isolation. (Chart 2). Contamination of virus is more when operator is close to the oral cavity, most of the dental procedures deal with salivary contamination and blood which carries high frequency of viral load. Even after knowing this fact only 50.4% dentists agreed to use rubber dam in all dental procedures whereas 49.6% dentists use rubber dam only if its required or while

doing aerosol procedures (Chart 3). While treating any patient, operator should take proper history with vital parameters. According to scientific studies we can see the changes in following blood tests - CBC, PCR.

Current pandemic has affected dental treatment planning as many of the dentists try to avoid multiple visits by patient like wish. We found 80.9% of dentists try to finish dental procedures in one visit whereas 18.9% dentists keep multiple visits which depends upon case to case. For sterilization after dental procedures, 41.7% dentists prefer to change PPE after single case and 58.3% dentists use same PPE kit for multiple cases with proper sanitization or disinfectant. (Chart 5). Fumigation is the primary protocol after all dental work at the end of the day. 40.9% dentists use fumigator, 35.6% use 1% Hypochlorite spray and 19.7% uses disinfectant tablets which are available in the market (Chart 6). HEPA filters with air purifiers are newly growing technique in dental operatory, it claims to filter 90% or more air.

Conclusion

All dental procedures should be categorized between emergency and non-emergency basis. Try to avoid non-emergency treatment. Use of rubber dam isolation minimizes the risk of contamination. Using PPE kit and rest of the precautionary measures increases the treatment cost which is again a challenge for both dentist and patient. Overall, dental field is now at high risk of cross-contamination, donning and doffing should be done under strict observation, daily disposal of used kit and dental aids is mandatory. Awareness is important in all dentists about the pandemic situation over economical load /pressure.

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