

Knowledge of Orthodontist regarding Covid-19 virus in East - India – A questionnaire based cross sectional study

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Abstract: *Background:* Covid - 19 affect the whole world including India and make the people to stay at home and work from home. Healthcare acting as a front-line soldier for their country. The field of Dental science is at the highest risk zone for contamination and spread of Covid - 19 already declared by world Health Organization (WHO). The daily routine of an Orthodontist changes due to Lockdown prevailing in India and other parts of the world. We are in a situation to think what to do and what not to do? At this point, Knowledge regarding Covid – 19 is very much important to stop or break the chain of spread of this virus. *Objective:* The Aim of the study is to analyse the knowledge of Orthodontist regarding Covid 19 in India by preparing a questionnaire and conveying them through Online. *Method:* This cross-sectional study was done on 122 participants. Data was collected through online mode. *Result:* 98.4% knows the identification and origin of spread of viruses. 97.5% knows regarding PPE kit. 49.2% knows regarding isolation of room. 89.3% knows regarding medical advice. 93.4% knows regarding hand hygiene. 91% knows regarding infection measure control. *Conclusion:* This study shows moderate knowledge regarding covid 19 at the present situation.

Keyword: Covid-19, Orthodontist, India, Questionnaire.

Introduction

East India is a region of India, consisting of the Indian states of Bihar, Jharkhand, Odisha, West Bengal and the union territory Andaman and Nicobar Islands [1]. Covid -19 is now declared as pandemic disease in the world which originate from Wuhan, China [2]. It is assumed that it spread through animal to man, from the animal market in the Wuhan city, and then it spread through men to men with flue like symptom, pneumonia and even to death [3]. “Orthodontics is a specialty of dentistry that deals with the diagnosis, prevention and correction of malposition teeth and jaws. It can also focus on modifying facial growth, known as dentofacial orthopaedics” [4].

Contamination and cross Contamination in the Dental Clinic or Hospital is high as compared to other branches of Medical Science. During the bracket bonding process in the tooth, Orthodontist mostly uses aerosol technique which is highly non-permissible during Covid-19 era. Infection control measures is necessary to control the

viruses to spread socially [5]. On 8 May 2020, the conform case prevailing in India is 56,409 in which 37,725 is active case and 16,790 is recovered case, with 1,890 is deceased [6]. The number of cases is still growing and currently, there is no vaccine or treatment is possible [7]. Social Distancing and treatment with the guideline of WHO.

Aims & Objectives: The Aim of the study to analyse the knowledge among Orthodontist in the East-India region regarding Covid-19 virus.

Material and Methods

Prior to start this study a Pilot study was done on 20 Orthodontist of East-India Region. Assuming a finite population of Orthodontist in the East-India is of 500 individuals, the finite population corrected sample size needed for the study was 108 subjects. The Survey was conducted, who have either attended the last Orthodontic conference-2019 or having membership of Indian Orthodontic Society

(IOS) which comes under infinite Population. The questionnaire was sent through digital medium. The total number of samples was 150 which is a large sample. There is loss of 28 volunteer due to lack of communication. The period of survey was in between 08 to 25 May 2020. A questionnaire consists of 11 question (Appendix 1) was made under the guideline and information published in the Canters for Disease Control and Prevention (CDC) [8], Indian Orthodontic Society [9] and Indian Dental Association.[10] Consent was received from all the participants.

The Question was distributed through (Facebook, what’s app and other social media) among the volunteer and asked them to forward to nearest Orthodontist of East-India. A brief review of the study was given in the front page of the form. The consent was taken in the Google form by asking them to click YES/No regarding the participation in the study and it is available at: <https://forms.gle/s7Dw7u4gByj2n1LZ7>. In the pilot study, the coefficient alfa found to be 0.71 which is acceptable. The responses were not included in the study.

Inclusion Criteria: 1) Orthodontist of East-India. 2) Age should be distributed as 20 to 35, 36 to 55 and 55 above. 3) Both Men and Female is being considered.

Exclusion Criteria: Other specialization field of Dentistry such as Prosthodontist, Endodontist and so on.

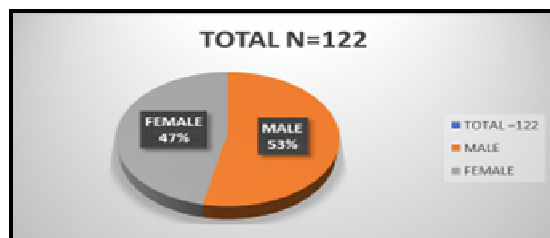
Data Analysis: Descriptive analysis was used to describe the data found in the survey. Continuous variables are described by Mean and Standard

variables and for categorical data, percentage was used.

Results

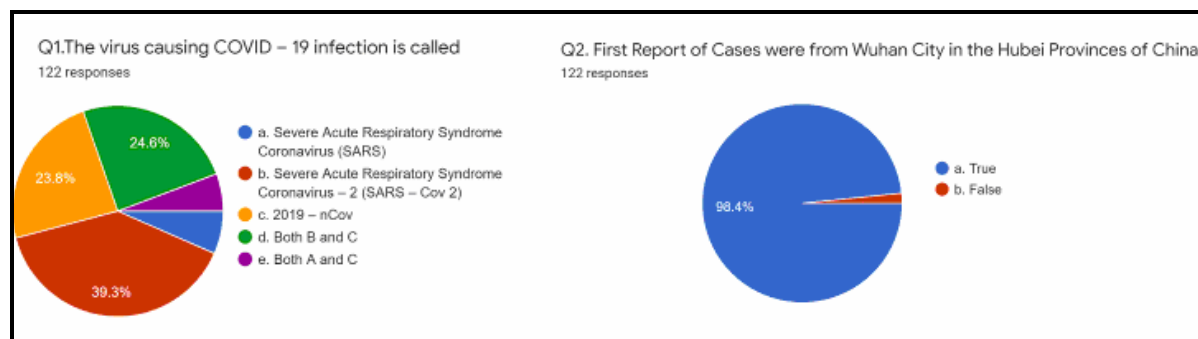
A total number of participants received were 122 as shown in Figure 1. In this there is loss of 28 volunteer due to lack of communication. 81.3% is the responsiveness of the volunteer in which male was 65 (53%) and female was 57 (47%). The age range is 20 to 57 years with a mean of 38.4 and Standard Deviation (SD) of 11.26.

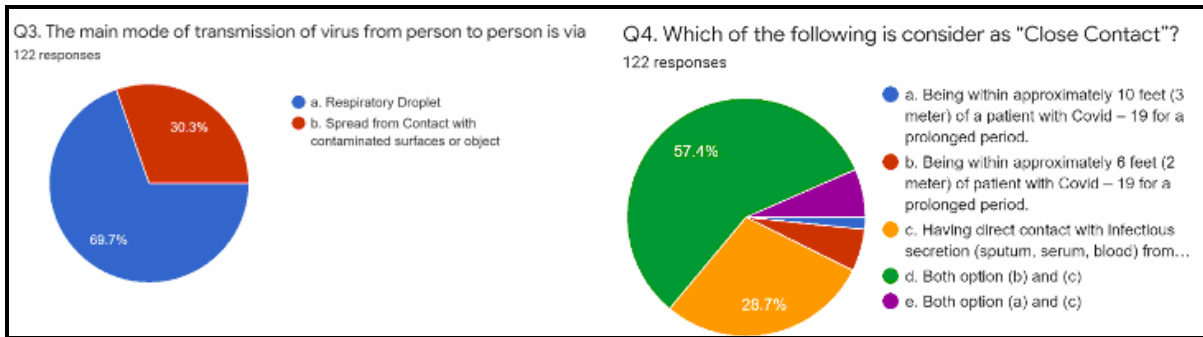
Fig-1: Total number of Sample (N) = 122



Awareness regarding Name of the virus, Origin location of the virus, Mode of transmission of the virus and spread of Virus: Mixed answer is found of the first question (Q1), it shows less awareness of virus among East-India zone as shown in Figure 2. The accuracy in the name prediction was 39.3% which is below average. Most of the Orthodontist gives correct answer regarding origin of the virus i.e., 98.4% (Figure 2). Slight Confusion is seen in the mode of transmission and spread of virus as shown in Figure 2.

Fig-2: Awareness regarding Name of the virus, Origin location of the virus, Mode of transmission of the virus and spread of Virus.

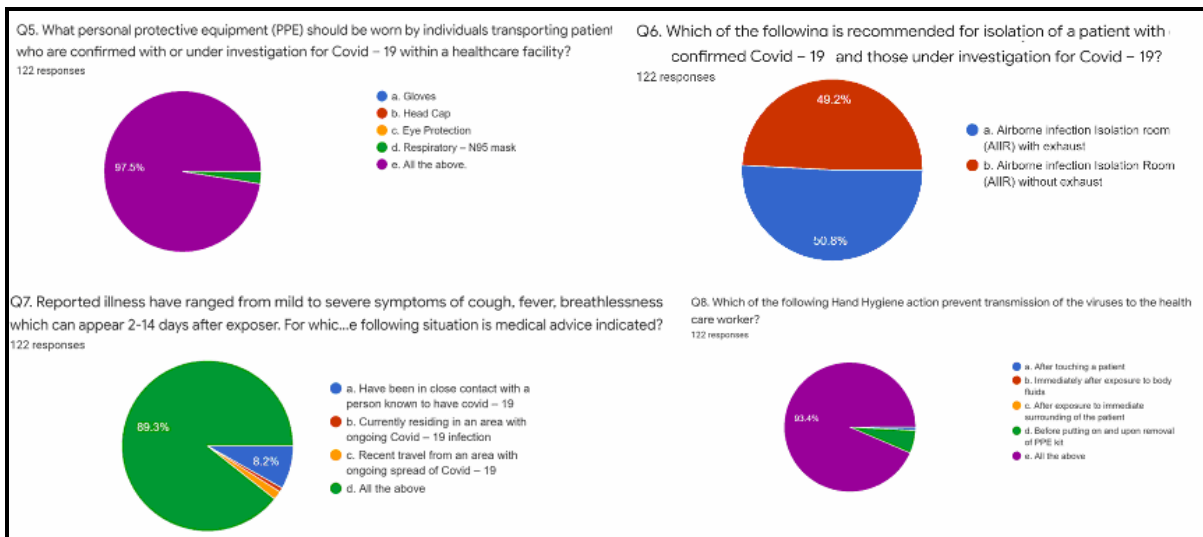




Awareness regarding PPE kit, Isolation room for patient, Reporting to Covid-19 Centre, Hand Hygiene: 97.5% of the Orthodontist gives the correct answer but the researchers assume that Question 5 (Figure 3) answer might come 100%. 3 % of the volunteer say only respiratory mask as a PPE kit. 49.2% responses with the correct

answer of isolation room of the patient as shown in (Figure 3). Regarding medical advice 89.3% (Figure 3) is in the favour of correct answer. Related to Hand Hygiene action was given 93.4% (Figure 3) volunteer gives the correct answer.

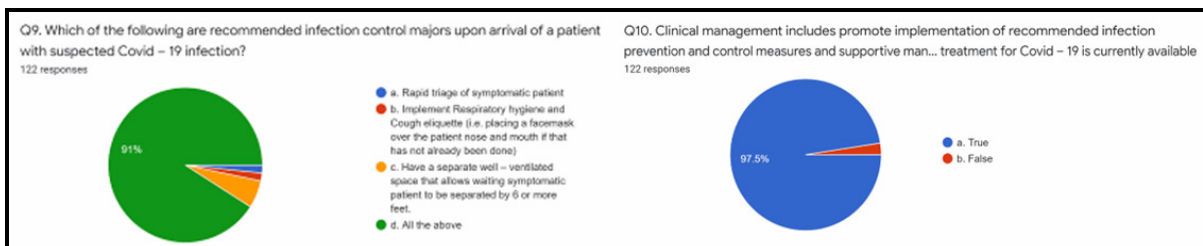
Fig-3: Awareness regarding PPE kit, Isolation room for patient, Reporting to Covid-19 Centre, Hand Hygiene

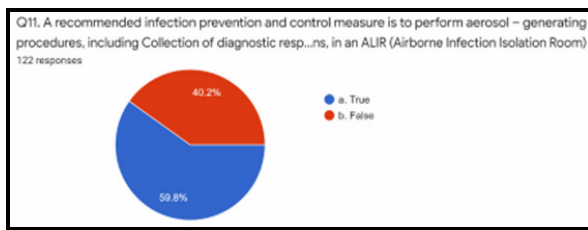


Awareness of Infection control measures, Treatment of Covid-19 virus, Collection of Sample if you have been asked: Infection measures controlled has been answered correctly by 91% (Figure 4) of the Orthodontist even 9%

are in confusion. In question number 10 and 11 when asking a statement by giving true or false option to choose, we received 97.5% (Figure 4) and 59.8% (Fig-4) respectively.

Fig-4: Awareness of Infection control measures, Treatment of Covid-19 virus, Collection of Sample if you have been asked:





Discussion

The survey was just conducted during the Lockdown prevailing in India. This survey provides the knowledge related to covid-19 viruses among orthodontist in the East-India zone. The minimum distance of Orthodontist to the patient is approx. 35-40mm [11-12]. The incubation period of Covid-19 is up to 14 days [13-14]. The different name of the covid-19 is also discussed [15]. Orthodontists vary with the naming of covid-19 in this study, but it is essential to know all the name and its full form clearly.

There is no treatment of Covid 19 yet. Supportive treatment is the only treatment [16]. The perception about the close contact of the virus Covid-19 is moderately dangerous in this study (57.4%) and almost half the orthodontist is in confusion which is a serious health issue. Although the knowledge regarding PPE kit is acceptable but still there is some lack of awareness. The Present score regarding Knowledge of Covid – 19 is (98.4%) are higher

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as compared to the Fatiregun et al. (the swine influenza H1N1 virus 31% among senior Nigerian health worker), Shivlingesh et al. (the influenza A H1N1; 52.6% of the Indian Population), Gupta et al. (the Zika virus ZIKV pandemic (38.2%), Aung et al. (the Ebola Virus; 54.7% nursing student in Myanmar), and Singh et al. (the ZIKV outbreak 61.7% among the student at dental institute) [17-21].

This study is some limitation, one of them is social bias. I have not taken personal information to avoid this bias and assured them that their data is safe. Due to the cross-sectional study, self-selection bias can also occur in sample selection. Although this questionnaire is for the whole world orthodontist Population, but due to the geographic variation and English Language, I have limited it.

Conclusion

In this study the orthodontist has moderate knowledge about Covid 19. This can also happen because there is a lack of communication and literacy in the East India zone as compared to other states of India. With this study they also have advice to follow the CDC and WHO guideline in their clinics and hospital. They would also have been told about staff sanitization so that no one will be left in defeating this pandemic.

Conflicts of interest: There are no conflicts of interest.

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