Surgeon's perception of COVID -19 Pandemic

Dr Shilpi Tiwari[1] Dr Dinesh Sharma[2] Dr Amrita Pandita Bhatia,[3] Dr .M. Srinivas Moudgalya [4] Dr Shubhrata Shrivastava [5]

Designation : 1- Professor, Department of Pediatric & Preventive Dentistry , PCDS & RC, Bhopal , M.P. India.
2- Post Graduate Student , Department of orthodontics, MPDCH, Gwalior
3- Prof & HOD , Department of prosthodontics, YCM & RDF Dental college & Hospital, Ahmednagar , MAHARASHTRA
4- Senior lecturer , Peoples College of dental sciences & research centre , Bhopal
5- Senior lecturer , RKDF Dental college , Bhopal

Corresponding author :
Dr Amrita Pandita Bhatia,
Prof & HOD , Department of prosthodontics, YCM & RDF Dental college & Hospital, Ahmednagar , MAHARASHTRA
Email : pandita.amrita@gmail.com

Abstract

Background: Surgeons of all levels and kinds poses high risk of getting infected due to use of aerosol generating medical equipment (drill, electrocautery etc.), long duration of surgeries making close proximity with the patients, closed operation theatre environment and fully air conditioning system of operation theatre.

Aim: The aim of the current study is to evaluate knowledge, attitude and practice of surgeons regarding COVID -19 Pandemic.

Methodology : This observational study was conducted using google form online survey. A well-structured questionnaire composed of total 26 Closed ended questions was formulated and distributed among Surgeons practicing in India.

Results: This study included total of 1415 surgeons forming a response rate of about 70.75%. Most of the participating surgeons (1166) were having postgraduate degree and very few (249) very few undergraduates participated in the study .More males as compared to females participated in the study. The results of the survey showed that surgeons practicing in India had good knowledge , attitude and practice regarding Covid 19 infection .

Conclusion and Recommendations : It can be concluded from the current survey that Surgeons were found to have good knowledge , attitude and practice scores.

Keywords: Infection control , Universal precautions, Covid -19,

Back ground :

The COVID-19 pandemic spawn a conundrum among health care workers.[1] The Covid – 19 disease is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).[2]This virus is mainly transmitted through respiratory droplets and direct physical contact, although other routes such as aerosol, faecal–oral, and indirect transmission via fomites may contribute to the rapid global dissemination of the virus.[3]Transmission may also occur through fomites in the immediate environment around the infected person.[4]The virus has an incubation period of 2 to 14 days and the main manifestations of COVID-19 are fever, dry cough, dyspnoea, myalgia, fatigue, hypo-

lymphaemia, radiographic evidence of pneumonia.[5]Recently, cutaneous manifestations have been observed like acral areas of erythema with vesicles or pustules(oftenafterothersymptoms)(19%),othervesiculareruptions(9%),urticarialesions (19%), maculopapular eruptions (47%) and livedo or necrosis (6%) .[6]

Surgeons of all levels and kinds poses high risk of getting infected due to use of aerosol generating medical equipment (drill, electrocautery etc.), long duration of surgeries making close proximity with the patients, closed operation theatre environment and fully air conditioning system of operation theatre.

Amidst to current pandemic, WHO, CDC and various governmental and non-governmental authorities have issued several guidelines, also started online courses and training sessions to raise awareness and preparedness of health care workers regarding prevention and control of COVID-19. Assuming that these guidelines would have increased the knowledge of surgeons of all kind and speciality, Still the extent to which knowledge can be put into practice and the extent to which this practice actually reduces COVID-19 infection is unclear. Thus, understanding surgeons knowledge, attitudes, and practices (KAP) are utmost important and it's a need of an hour during this Catastrophic pandemic. This will enable us to find out possible risk factors, predict outcomes of planned behaviour and also aid in providing recommendations for future pandemic situations.

Thus, the aim of the current study was to evaluate knowledge, attitude and practices of surgeons in wake of Covid-19.

Methods:

This observational cross- sectional study was done using google form online survey . Questionnaire was distributed among surgeons practicing in India by various social media using Google forms. On scrolling the first page, it inferred the confidentiality data and consent for participation. Second, third and fourth page, were for question regarding knowledge, attitude and practice. A well-structured questionnaire composed of total 26 Closed ended questions was formulated and validated. Surgeons of all level and kind, practicing in India were contacted through convenience sampling (researchers themselves contacted surgeons to participate in the study) and snowball sampling (the participating surgeons were asked to forward the questionnaire to their colleagues) were used to ensure maximum participation.

Research tool:

The questionnaire comprised of questions on demographics, knowledge, attitude, practice and information sources about COVID-19. Demographic details included total of four questions on gender, qualification, work experience and work sector.Knowledge and attitude section comprised of 5 questions each, while practice section comprised of 11 questions. One question on source of information about covid-19 was asked. The question framing, validation and blueprint to recruit the surgeon (voluntarily) was formulated. Submission was considered as accepted, only when all the question were answered and failing to answer a single question by participant, were excluded from the study.

Data analysis:

Only the first author had the access to the data, and no other personal data were

utilized. The primary data was collected, sorted, classified, tabulated in a proper format and analysed usingStatistical Packages for Social Sciences (SPSS) version 22. Descriptive statistics (counts and percentages) and relevant tables were used to summarize information. A Chi-square analysis was used to compare proportions. Analysis of variance (ANOVA) was used to determine differences whereas Significance was considered at a p-value <0.05.

Results:

This study included total of 1415 surgeons forming a response rate of about 70.75%. Most of the participating surgeons (1166) were having postgraduate degree and very few (249) very few undergraduates participated in the study .More males as compared to females participated in the study .

Knowledge regarding COVID-19:

Most of the surgeons (81.9%) were aware of all possible modes of transmission of corona virus. Only two third (75.3)of the participants were fully aware of the all sign and symptoms of covid-19. On answering awareness about high risk category patients 2/3rd of the participants were aware about the high risk category of patients and only very small number of participants (2.6%) had no knowledge about the same. Only 71.6% of the surgeons were updated with the current guidelines on infection control protocol and 65.6% were aware of proper donning and doffing of PPE. (Table 1)

Attitudes regarding COVID-19: Majority of the surgeons (88.8%) accepted their role in spreading awareness regarding COVID-19. 85.9% of the surgeons agreed that physical distancing and mask are important for patients sitting in waiting area. Huge number of the surgeons (79.1%) preferred postponing elective procedure in all patients while a lesser number of dentist (20%) preferred postponing elective procedures only in suspected or COVID -19 positive patients. 63% of the surgeons were following AYUSH Guidelines for boosting their immunity.(Table 2)

Practices regarding COVID-19: Mixed responses were recorded about practices regarding Covid -19. Though most of the surgeons were recording travel history and were taking informed consent from patient regarding risk of COVID-19 associated with hospital visit (85% & 82.3 %) but very few were practicing tele- triage (40.2%) and Only 61% of the dentist were recording Body temperature of all patients. 79.5% of the surgeons were ensuring Hand washing / Sanitization of Patients visiting to hospital , maintaining physical distance in waiting area (80%), were wearing PPE for all cases while doing treatment (83.7%). Only 30.4 percentage of surgeons were disinfecting operating room after each patient and rest all were disinfecting after completing all patients. 85% of the surgeons were taking shower and proper clothes segregation after reaching home. (Table 3)

Discussion:

Though the overall mortality rate of COVID-19 ranges 2 -5% worldwide which is relatively lesser than those of SARS (9.5%) and MERS (34.4%), but the pathogens still continue to emerge and spread to the population at risk. [7,8]The wave of COVID-19 has imparted a gruesome effect on everyone's life, since all gatherings and social function are being avoided to reduce the virus transmission. The menace of COVID pandemic makes

the all healthcare workers alerted, due to high risk of contracting the disease, but it is the nature and ethics of health professionals to work selflessly to cure their patients. Studies have shown that, 15.6% of confirmed COVID-19 patients are asymptomatic and Children are likely to show a higher proportion of asymptomatic infection in comparison to adults. Furthermore it has also been found that half of the asymptomatic individuals will also develop the symptoms later.[9] Study by Geo-Sentinel survey proposed that about 11% of respiratory tract diseases are common in international traveller. And, it is well known that COVID-19 transmitted by international travelling, by country to country[10]. But it does mean that only the history of international travel is a risk factor for health professional. Although the local patients are also frequent domestic travellers, so the asymptomatic local patient and even the children who are supposed to home bound, may be also a potent virus spreader to the surgeons particularly.

The COVID-19, initially it was endemic disease and it became pandemic due to the air travel by the patients. So the history of traveling of patients is of prime importance for surgeon. It causes financial burden to treat the suspected patients (history of air travel) due to use of personnel protection equipment (PPE), by surgeon as well as paramedics, which will ultimately impact the patients financially. So, the travel history will surely overcome the transmission rate and disease burden. In our study, 85.2% of the surgeons asked for the history of air travel before surgery, which will definitely help in plan for early diagnosis and limiting the further possible spread of disease. In our study, the Internet was the most common source of information regarding practice guideline by most of the participant (60.2%), followed by social media and newspaper. Since, everybody wanted for the most reliable source of practice guideline in wake of pandemics, so searched the portal of authorized agency directly by Internet and less relied on newspaper and social media. So, it is similar to the results of Gupta et al., who obtained that, Internet was the most common source of knowledge for health professionals in India, during the Zika virus pandemic[11] .So, the finding of a high level of attention among health professionals regarding practice is a good sign of positive impact initiative to fight to curb the spreading of COVID-19 pandemic.

Researchers across the world, try to determine the knowledge of the disease among healthcare workers. So that he could assess the preparedness to combat the any epidemic. In our study, the knowledge score is 73.7% regarding COVID-19, which is relatively higher than study of Fatiregun et al. (regarding swine influenza (H1N1) disease; 31%) among Nigerian healthcare workers), Aung et al.(regarding Ebola virus; 54.7% nursing students in Myanmar),and Shivlingesh et al. (for influenza A (H1N1)pandemic; 52.6% of the Indian population). [12, 13, 14] One of the significant part of this study is that the knowledge response were scored among different category of healthcare worker (medical and dental) and moreover the such relatively high score (73.7%) of knowledge score of our study seems reassuring as far as the role of healthcare workers in fighting the COVID-19 pandemic is concerned.

Attitude is an evaluative statement, which emerges from an individual's perceptions about his environment, based on his experiences[15]. Any health professional's

attitude for his profession reflects his cognizance about his association and interprets into his performance [16]. Doctors are engaged in noble profession, and their jobs require not only advanced skills, but also the art of communication. In the case of health professionals, their attitude regarding their duty is definitely tempered by this pandemic. In our study, surgeons had good knowledge, attitude and practices regarding the COVID -19 pandemic. So, the up-to-date information and training of health personnel will definitely improve the preparedness to curb the disease and will halt the viral transmission of novel corona virus.

Conclusion & future Recommendations: The COVID-19 pandemic has caused much morbidity and mortality to patients as well as health care workers. Thus proper infection control and preventive measures are of prime importance while working on patients .Most of the surgeons in the current survey showed good knowledge, attitude, and practice towards COVID-19. Still some surgeons showed poor attitude and practices regarding infection control. More continuing educational programmes should be carried out for surgeons to enhance and update them with the current guidelines. Furthermore, reinforcing positive attitude and sense of self responsibility among surgeons will help in enhancing their knowledge , attitude and practices.

Limitations & Generalisability: The cross-sectional design of the survey, might limit the generalizability of the findings to larger populations. Drawbacks of online surveys like online fraud, limited sampling, respondent and interviewer availability are also assumed to be one of the limitations of the study

References:

[1] Kumar J, Khatana PS, Raina R. The conundrum of rising Covid19 infection among health care workers: An emerging paradigm. Am J Emerg Med. 2020 Jul 4:S0735-6757(20)30593-3. doi: 10.1016/j.ajem.2020.07.001. Epub ahead of print. PMID: 33071086; PMCID: PMC7335236.

[2] Sharma A, Tiwari S, Deb MK, Marty JL. Severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2): a global pandemic and treatment strategies. Int J Antimicrob Agents. 2020 Aug;56(2):106054.

[3] Patel KP, Vunnam SR, Patel PA, Krill KL, Korbitz PM, Gallagher JP, Suh JE, Vunnam RR. Transmission of SARS-CoV-2: an update of current literature. Eur J Clin Microbiol Infect Dis. 2020 Nov;39(11):2005-2011.

[4] Karia R, Gupta I, Khandait H, Yadav A, Yadav A. COVID-19 and its Modes of Transmission. SN Compr Clin Med. 2020 Sep 1:1-4.

[5] Sharma R, Agarwal M, Gupta M, Somendra S, Saxena SK. Clinical Characteristics and Differential Clinical Diagnosis of Novel Coronavirus Disease 2019 (COVID-19). Coronavirus Disease 2019 (COVID-19). 2020;30:55–70.

[6] Carrascosa JM, Morillas V, Bielsa I, Munera-Campos M. Cutaneous Manifestations in the Context of SARS-CoV-2 Infection (COVID-19). Actas Dermosifiliogr. 2020 Nov;111(9):734-742.

[7] Chen N, Zhou M, Dong X, Qu J, Gong F, Han Y. et al. Epidemiological and clinical characteristics of 99 cases of 2019 novel coronavirus pneumonia in

Wuhan, China: a descriptive study. Lancet. 2020; 395:507–13.

[8] Munster VJ, Koopmans M, van Dormagen N, van Riel D, de Wit E. A Novel Coronavirus Emerging in China - Key Questions for Impact Assessment. N Engl J Med. 2020; 382:692–4.

[9] He J, Guo Y, Mao R, Zhang J. Proportion of asymptomatic coronavirus disease 2019: A systematic review and meta-analysis [published online ahead of print, 2020 Jul 21]. J Med Virol. 2020;10.1002/jmv.26326.

[10] Leder K, Torresi J, Libman MD, et al. GeoSentinel surveillance of illness in returned travelers, 2007-2011. Ann Intern Med. 2013;158(6):456–468.

[11] Gupta N, Randhawa RK, Thakar S, Bansal M, Gupta P, Arora V. Knowledge regarding Zika virus infection among dental practitioners of Tricity area (Chandigarh, Panchkula and Mohali), India. Niger Postgrad Med J. 2016;23(1):33–37.

[12] Fatiregun AA, Olowookere SA, Oyebade AO. Pandemic influenza A (H1N1): Knowledge among senior health workers at a secondary health care institution in Southwest, Nigeria. Afr Health Sci. 2011;11(2):171–175.

[13] Aung MH, Oo WM, Lynn KK, Mya KM. Knowledge and perception towards Ebola virus disease among nursing students in the University of Nursing, Yangon. Myanmar Med J. 2015;57(3):8–14.

[14] Shivlingesh KK, Agrawal A, Chaudhary H, Singh K, Mishra P, Asawa K. Public knowledge, attitude and behavioural changes in an Indian population during the Influenza A (H1N1) outbreak. J Infect Dev Ctries. 2010;4(1):7–14.

[15] Robbins SP. Values, Attitudes and Job Satisfaction. In: Robbins SP, editor. Organizational Behavior. 9th ed. Prentice Hall of India; 2001. pp. 60–81.

[16] Kraus SJ. 'Attitudes and the Prediction of Behavior-A meta analysis of the Empirical Literature' Personality and Social Psychology Bulletin' 1995;58–75.

Table 1: Knowledge among Surgeons (N=1415)

Knowledge	Option	Number	Percentage
1-Are You Aware Of all possible Modes Of Transmission Of Corona Virus	**1- Yes**	1159	81.9
	2- No	7	.5
	3-Not fully aware	249	17.6
2- Are You Aware Of The Sign And Symptoms Of COVID -19.	**1- Yes**	1065	75.3
	2- No	58	4.1
	3-Not fully aware	292	20.6
3-Are You Aware Of The High Risk Category Of	**1- Yes**	1049	74.1
	2- No	35	2.5
	3-Not fully aware	331	23.4

Patients In Concern Of COVID -19			
4- Are you Updated with The Current Guidelines on Infection Control Protocol	**1- Yes**	1013	71.6
	2- No	46	3.3
	3-Not fully aware	356	25.2
5- Are You Aware Of Proper Donning And Doffing Of PPE	**1- Yes**	928	65.6
	2- No	230	16.3
	3-Not fully aware	257	18.2

Table 2: Attitude regarding COVID-19 among medical and dental surgeons

Attitude	Option	Number	Percentage
1- Do You Think That Doctors Can Play Role In Spreading Awareness Regarding COVID-19	**1- Yes**	1257	88.8
	2- No	15	1.1
	3- May be	143	10.1
2- Do You Think Physical Distancing And Mask Are Important For Patients Sitting In Waiting Area	**Yes**	1215	85.9
	No	10	0.7
	May be	190	13.4
3- Opinion Regarding Postponing Elective Procedures	1- **Yes**	1121	79.2
	2- No	231	16.3
	3-May be	63	4.5
4-Are You Afraid Of Doing Aerosol Generating Procedures	1- **Yes**	1053	74.4
	2- No	283	20.0
	3-May be	79	5.6
5- Are You Following AYUSH	**1-Yes**	891	63.0
	2- no	305	21.6

Guidelines For Boosting Your Immunity	3-Sometime	219	15.5

Table 3: Practice regarding COVID-19 among dental students

Practice	Option	Number (N)	Percentage (%)
1- Are You Practicing Tele Triage	**Yes**	572	40.4
	No	753	53.2
	sometime	90	6.4
2-Are You Taking Travel History From Each Patient	**Yes**	1205	85.2
	No	74	5.2
	sometime	136	9.6
Q3 Are You Recording Body Temperature Of All Patients	**Yes**	860	60.8
	No	543	38.4
	sometime	12	0.8
Q4 Are You Taking Informed Consent From Patients Regarding Risk Of COVID-19 Associated With Their Hospital Visit	**Yes**	1164	82.3
	No	206	14.6
	sometime	45	3.2
-5-Do You Ensure Hand washing / Sanitization Of Patients Visiting To Hospital	**Yes**	1125	79.5
	No	192	13.6
	sometime	98	6.9
6-Are You Maintaining Appropriate Physical Distance In Your Waiting Area	Yes	1132	80.0
	No	127	9.0
	sometime	156	11.0
7- Are You Using PPE During Operative Procedure In All Patients	yes	1184	83.7
	No	205	14.5
	sometime	26	1.8
	In All Patients	964	68.1

8- Are You Avoiding Use Of Aerosol Generating Equipments In Concern Of Covid - 19	In Suspected Covid 19 Patients	451	31.9
9-Are You Avoiding Use Of Aerosol Generating Equipments In Concern Of Covid - 19	Yes	554	39.2
	no	861	60.8
10- When Do You Disinfect Your Operating Room	1-After Each Patient	978	69.1
	2--Once Every day After Finishing All Patients	424	30.0
	1- Weekly	13	0.9
11-Do You Take Shower And Proper Clothes Segregation After Reaching Home	Yes	1211	85.6
	No	36	2.5
	Sometime	168	11.9
12- source of information	Internet	399	28.2
	Social Media	91	6.4
	Newspaper	73	5.2
	All	852	60.2