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Original Research Article

Assesment of knowledge and awareness regarding novel coronavirus (COVID-19) among dental professionals of Hazaribag District, Jharkhand, India

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ABSTRACT

Aims: The aim of the study was to assess the knowledge and awareness regarding novel coronavirus disease (COVID-19) among dental professionals of Hazaribag district, Jharkhand, India..
Subjects and Methods: The study population comprised of total 240 dental health professionals (DHPs) of Hazaribag district, Jharkhand. Data were obtained through a questionnaire containing 20 multiple-choice questions. The qualitative analysis was done using Chi-square test, P< 0.05 was considered statistically significant.
Results: Qualitative analysis of results of responses of DHPs on the knowledge and awareness of COVID-19 revealed that irrespective of their educational qualification and experience in the field of dentistry, the majority had sufficient knowledge on various aspects of the disease. However, responses of DHPs belonging to different qualification groups to questions that were related to age group at risk of getting COVID-19 infection, the genetic makeup of SARS CoV-2, it's mode of transmission and use of recommended norms useful in preventing COVID-19 infection showed different levels of knowledge and awareness on the disease that were statistically significant (p<0.05)

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1. Introduction

Coronavirus disease 2019 (COVID-19) is caused by severe acute respiratory syndrome- coronavirus 2 (SARS-CoV-2). It started in Wuhan city, China in December 2019 and caused severe respiratory syndrome that spread rapidly to different parts of China and ultimately to different parts of the world has emerged as a global pandemic.[1–3] The highly infectious disease with appreciable fatality rates has become a significant public health problem across the globe, including India.

In India, the first confirmed case of COVID-19 was reported from the state of Kerela on January 30, 2020 in a student who had returned from Wuhan, China. Since then, as on May 07, 2020, there are more than 52,000 confirmed positive cases in the country.[4] Based on the phylogenetic analysis of viral genome COVID-19 have been identified as Beta CoV.[5,6] On January 30, 2020, the world health organization (WHO) has declared this devastating global pneumonia outbreak of infectious disease as a public health emergency of international concern.[7] The recent findings suggest its interpersonal transmission mainly via respiratory droplets and contacts and its transmission through aerosols, or vertical transmission remains to be confirmed.[8,9] Further contact transmission with saliva, nasal and eye secretions are common transmission routes of COVID-19 infection.[10,11]

Further, it is generally accepted that both symptomatic and asymptomatic COVID-19 patients are the primary sources of transmission.[12,13] Although, individuals of all age groups are susceptible to this disease, those who are in close contact with the patients are at higher risk of COVID-19 infection. Since health care workers are more indulged in contact with symptomatic and asymptomatic COVID-19 patients, they are at higher risk of infection. In late January

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2020, WHO and centre of disease and prevention (CDC) recommended a guideline for the prevention and control of COVID-19 for health care workers.[14,15] Among all groups of people who are at high risk of this new infectious disease, dental health professionals (DHPs) who besides involving face to face communication, very frequently come in contact with saliva, cough, sneeze droplets and blood, blood mixed saliva during various dental procedures in the working area during the use of high-speed air rotor, ultrasonic scalers etc., and thus they face the highest risk of getting COVID-19 virus infection. During dental procedures, instruments also get infected with the virus that carries the risk of COVID-19 infection to the next chain.

The present survey-based study was undertaken to investigate the knowledge and awareness of dental professionals on the current outbreak of pandemic COVID-19 infection.

2. Subjects and Methods

A twenty cross-sectional question survey was conducted among dental professionals (Interns, B.D.S., M.D.S.) belonging to both the sexes (male and female) of district Hazaribag, Jharkhand, India. Due to the announcement of lockdown by the government of India on March 24, 2020, the participants in this survey were approached directly by the researchers through e-mails and social media. (Figure 1 and 2)

2.1. Inclusion criteria

The participants included were interns of Hazaribag College of Dental Sciences & Hospital, and DHPs of Hazaribag district holding B.D.S., M.D.S. qualifications.

2.2. Exclusion criteria

1st year to final year students as they are not much exposed to the clinical work yet.

3. Results

240 participants (140 males and 100 females) in the study were in the age group 20-35 years (60%), 36-45 years (27.9%), 46-55 years (6.3%), and more than 55 years old (5.8%). (Table 1)

3.1. The response of DHPs on knowledge towards COVID-19 infection: (Tables 2 and 3)

100% of the respondents, irrespective of their qualification were certain that a coronavirus causes COVID-19, and majority of the participants (79.2%) were certain that persons of all the age groups were at risk of getting infected with COVID -19 whereas 20.8% participants had a different opinion on this issue. The difference was statistically significant. (p value=0.001). A majority (87.1%) of the DHPs agreed on the fact that COVID-19 has an incubation period of 1-14 days while 12.9% participants from different qualification groups did not have knowledge of incubation period of the coronavirus. The difference was, however, statistically insignificant (p-value =0.06). For question no. 4 related to the genetic makeup of COVID-19 virus, a significant percentage (88.8%) of participants believed that it is a retrovirus, and the rest did not have any knowledge about it. A fairly high percentage (more than 95%) of DHPs with varied educational qualification knew about the transmission of the virus through direct or indirect contact as well as through aerosols and droplets. However, 21.7% of the participants did not have a good knowledge of COVID-19 transmission through the use of poorly sterilized or infected dental instruments. The present survey demonstrated that 95.4% of the respondents had knowledge of the various symptoms of COVID-19 infection, but a minor percentage (4.6%) of them were not sure about the symptoms. Although the majority (82.5%) of participating DHPs knew the consequences of COVID -19 infection that may lead to severe pneumonia, respiratory failure and death, 17.5% of total participants were not aware of it. The present survey revealed that 83.8% of DHPs did not have any knowledge about the government official helpline number for referring suspected COVID-19 patients.

3.2. The response of DHPs on awareness towards COVID-19 infection: (Tables 4 and 5)

A majority of the participants (78.8%) advocated that patients should be essentially screened for exploring potential infection of COVID-19 before starting any dental treatment. In comparison, 27.2 % of them, however, either did not consider it necessary or were confused. Only 76.7% of the DHPs were aware of the personal protection guidelines issued by WHO, and 98.3% of them considered maintaining hand hygiene, covering nose and mouth, and avoiding sick contacts could help in the prevention of COVID-19 transmission.

A vast majority of the DHPs (99.2%) considered that washing hands with soap and water would help in the prevention of COVID-19 transmission. The participant's knowledge about a question related to current treatment for COVID-19 was poor, as 73.3% of them considered that supportive care is the current treatment for the disease. In comparison, 26.7% were not clear about the currently available treatment. Only 83.3%; DHPs knew that flu vaccination is not sufficient for preventing COVID-19. However, 13.3% of participants were not clear about it and 3.3% perceived that the flu vaccine is enough for preventing the disease. A majority (70.7%) of the DHPs agreed that the use of hand scalers and rubber dam would reduce the transmission risk of COVID-19. However, an appreciable percentage (24.6%) were not sure about it, and 3.8% did not agree with this. For a question like

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Sex: a) Male b) Female

Age group:

a) 20-35 b) 36-45 c) 46-55 d) > 55

Qualifications

a) Interns b) B.D.S. c) M.D.S.

Knowledge about Novel coronavirus (COVID- 19) among dental professionals

1) COVID-19 is caused by

a) Corona bacteria
b) Corona virus
c) Corona algae
d) Corona Fungi

2) Age group at risk of getting infected?

a) Children
b) Elderly
c) Elderly individuals with underlying medical conditions
d) All of the above

3) Incubation period for individuals infected with COVID-19 has been reported to be:

a) 1-7days
b) 1-14 days
c) 1-24 days
d) 1-28 days

4) COVID- 19 virus is a retro virus (RNA virus)

a) Yes b) No c) May be

5) Do you think COVID- 19 is transmitted through direct or indirect contact?

a) Yes b) No c) May be

6) Do you think Aerosols and droplets are main spreading routes for COVID- 19

a) Yes b) No c) May be

7) Do you think COVID- 19 can also be transmitted through use of poorly sterilized or infected dental instruments?

a) Yes b) No c) May be

8) Do you think Headache, fever, cough, sore throat, and flu are symptoms of COVID- 19

a) Yes b) No c) May be

9) Do you think COVID- 19 may lead to severe pneumonia, respiratory failure, and death?

a) Yes b) No c) May be

10) Do you have government official helpline number for referring patients having symptoms for COVID- 19?

a) Yes b) No c) May be

Fig. 1: Questionnaire 1-10

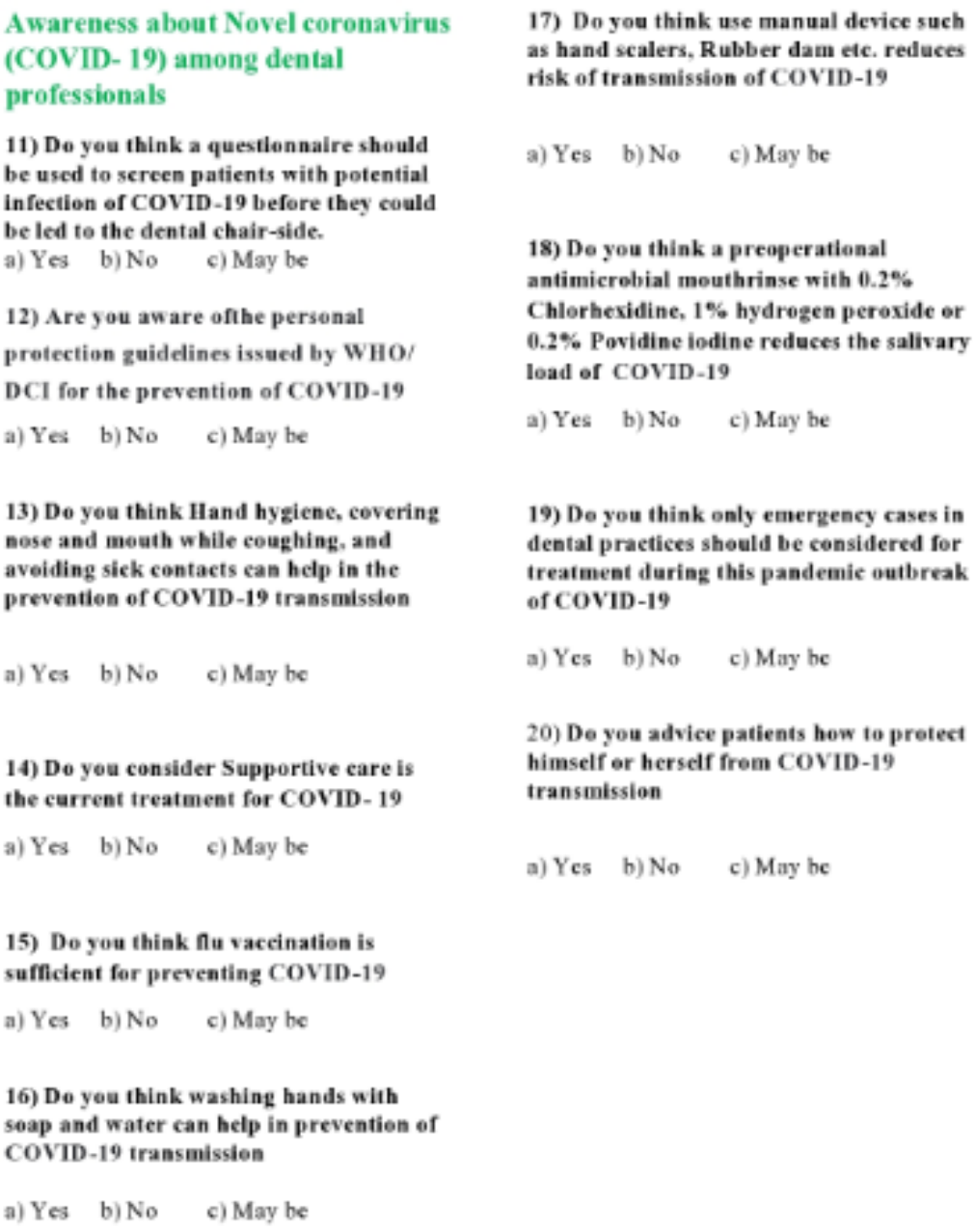
Table 1: Distribution of study participants based on the age group, qualification and gender

		Frequency	Percent
Age group (In Years)	20 - 35	144	60.0
	36 – 45	67	27.9
	46 - 55	15	6.3
	>55	14	5.8
	Total	**240**	**100.0**
Qualifications	Interns	102	42.5
	BDS	80	33.3
	MDS	58	24.2
	Total	**240**	**100.0**
Gender	Male	140	58.3
	Female	100	41.7
	Total	**240**	**100.0**

Table 2: Knowledge about novel coronavirus (COVID- 19) among dental health professionals

Questions	**Options**		**Qualifications**				**Statistical inference**
			Interns	**BDS**	**MDS**	**Total**	
Q. No. 1	Corona virus	Count	102	80	58	240	
		%	100.0%	100.0%	100.0%	100.0%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 2	Elderly	Count	8	4	0	12	X^2 =24.941 Df = 4 P Value = 0.001
		%	7.8%	5.0%	0.0%	5.0%	
	Elderly individuals with underlying medical conditions	Count	28	7	3	38	
		%	27.5%	8.8%	5.2%	15.8%	
	All the above	Count	66	69	55	190	
		%	64.7%	86.3%	94.8%	79.2%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 3	1-7 days	Count	11	9	1	21	X^2 =11.897 Df = 6 P Value =0.06
		%	10.8%	11.3%	1.7%	8.8%	
	1-14 days	Count	83	69	57	209	
		%	81.4%	86.3%	98.3%	87.1%	
	1-24 days	Count	5	1	0	6	
		%	4.9%	1.3%	0.0%	2.5%	
	1-28 days	Count	3	1	0	4	
		%	2.9%	1.3%	0.0%	1.7%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 4	Yes	Count	89	68	56	213	X^2 =12.549 Df = 4 P Value = 0.014
		%	87.3%	85.0%	96.6%	88.8%	
	No	Count	5	0	0	5	
		%	4.9%	0.0%	0.0%	2.1%	
	May be	Count	8	12	2	22	
		%	7.8%	15.0%	3.4%	9.2%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 5	Yes	Count	94	78	58	230	X^2 = 6.531 Df = 2 P Value = 0.038
		%	92.2%	97.5%	100.0%	95.8%	
	May be	Count	8	2	0	10	
		%	7.8%	2.5%	0.0%	4.2%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	

X2 (Chi square test), Df = Degree of freedom; P < 0.05 Significant



Awareness about Novel coronavirus (COVID- 19) among dental professionals

11) Do you think a questionnaire should be used to screen patients with potential infection of COVID-19 before they could be led to the dental chair-side.
a) Yes b) No c) May be

12) Are you aware ofthe personal protection guidelines issued by WHO/ DCI for the prevention of COVID-19
a) Yes b) No c) May be

13) Do you think Hand hygiene, covering nose and mouth while coughing, and avoiding sick contacts can help in the prevention of COVID-19 transmission
a) Yes b) No c) May be

14) Do you consider Supportive care is the current treatment for COVID- 19
a) Yes b) No c) May be

15) Do you think flu vaccination is sufficient for preventing COVID-19
a) Yes b) No c) May be

16) Do you think washing hands with soap and water can help in prevention of COVID-19 transmission
a) Yes b) No c) May be

17) Do you think use manual device such as hand scalers, Rubber dam etc. reduces risk of transmission of COVID-19
a) Yes b) No c) May be

18) Do you think a preoperational antimicrobial mouthrinse with 0.2% Chlorhexidine, 1% hydrogen peroxide or 0.2% Povidine iodine reduces the salivary load of COVID-19
a) Yes b) No c) May be

19) Do you think only emergency cases in dental practices should be considered for treatment during this pandemic outbreak of COVID-19
a) Yes b) No c) May be

20) Do you advice patients how to protect himself or herself from COVID-19 transmission
a) Yes b) No c) May be

Fig. 2: Questionnaire 11-20

"do you think a preoperational antimicrobial mouth rinse with 0.2% Chlorhexidine, 1% hydrogen peroxide or 0.2% Povidone-iodine reduces the salivary load of COVID-19", a majority of the DHPs (58.3%) were not sure about this, while 39.7% didn't agree with this, nor did not have any idea about this. A majority (77.9%) of the participants agreed that during this pandemic out breaking of COVID-19, only emergency cases in dental practices should be considered for treatment. In comparison, 13.8% of them did not agree with it. Similarly, a large majority of the participants in the present survey were positive about providing advice to the patients on how to protect themselves from COVOD-19 infection. Surprisingly, some (12.8%) participants responded negatively to this while a few (2.9%) of them were not clear about it.

Table 3: Knowledge about novel coronavirus (COVID- 19) among dental health professionals

Questions	Options		Qualification			Total	Statistical inference
			Interns	BDS	MDS		
Q. No. 6	Yes	Count	96	79	58	233	X^2 =5.696 Df = 2 P Value = 0.06
		%	94.1%	98.8%	100.0%	97.1%	
	May be	Count	6	1	0	7	
		%	5.9%	1.3%	0.0%	2.9%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 7	Yes	Count	77	67	44	188	X^2=9.865 Df = 4 **P Value = 0.043**
		%	75.5%	83.8%	75.9%	78.3%	
	No	Count	1	4	5	10	
		%	1.0%	5.0%	8.6%	4.2%	
	May be	Count	24	9	9	42	
		%	23.5%	11.3%	15.5%	17.5%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 8	Yes	Count	101	74	54	229	X^2 = 5.294 Df = 2 P Value = 0.071
		%	99.0%	92.5%	93.1%	95.4%	
	May be	Count	1	6	4	11	
		%	1.0%	7.5%	6.9%	4.6%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 9	Yes	Count	86	63	49	198	X^2= 1.424 Df = 4 P Value = 0.840
		%	84.3%	78.8%	84.5%	82.5%	
	No	Count	6	5	3	14	
		%	5.9%	6.3%	5.2%	5.8%	
	May be	Count	10	12	6	28	
		%	9.8%	15.0%	10.3%	11.7%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 10	Yes	Count	14	9	8	31	X^2 = 0.623 Df = 4 P Value = 0.96
		%	13.7%	11.3%	13.8%	12.9%	
	No	Count	84	69	48	201	
		%	82.4%	86.3%	82.8%	83.8%	
	May be	Count	4	2	2	8	
		%	3.9%	2.5%	3.4%	3.3%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	

X^2(Chi square test), Df = Degree of freedom; P < 0.05 Significant

4. Discussion

The current global emergency COVID-19, has within a short time spread to almost all countries of the world and has been declared global public health emergency by WHO. This global pandemic (WHO, 2020)[16] has forced a sizable global population to face lockdown in order to contain human to human viral transmission. Although we generally consider that COVID-19 spreads from person to person through respiratory droplets expelled by an infected person, but our knowledge of several aspects of infection spread is not very comprehensive.[17,18] It is generally considered that viral respiratory infections are spread by direct contact or through fomites/surfaces that infected symptomatic or asymptomatic person has touched or upon which respiratory droplets expelled by the person have landed.[19,20] Further, airborne transmission of COVID-19 viral load to longer distances cannot be ruled out.[16] Considering the high rate of infectiousness, DHPs face a high risk of contacting SARS-2 CoV-2 while conducting dental procedures. The results of the present survey on DHPs of Hazaribag district of Jharkhand state on their knowledge and awareness towards COVID-19 disease explicitly demonstrated that irrespective of their qualification (Interns, B.D.S., and, M.D.S.), age and gender, they had a right level of knowledge about the current disease. 100% of the participants knew that the disease is caused by a coronavirus. However, more than 11% of participants did not have any idea about the genetic makeup of the virus. Although the majority of DHPs had correct knowledge of the mode of spread of infection, and the role

Table 4: Attitude towards novel coronavirus (COVID- 19) among dental health professionals

Questions	Options		Qualifications			Total	Statistical inference
			Interns	BDS	MDS		
Q. No. 11	Yes	Count	80	60	49	189	X^2= 3.428 Df = 4 P Value = 0.489
		%	78.4%	75.0%	84.5%	78.8%	
	No	Count	6	9	3	18	
		%	5.9%	11.3%	5.2%	7.5%	
	May be	Count	16	11	6	33	
		%	15.7%	13.8%	10.3%	13.8%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No.12	Yes	Count	82	55	47	184	X^2 =4.455 Df = 4 P Value = 0.348
		%	80.4%	68.8%	81.0%	76.7%	
	No	Count	16	20	8	44	
		%	15.7%	25.0%	13.8%	18.3%	
	May be	Count	4	5	3	12	
		%	3.9%	6.3%	5.2%	5.0%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No.13	Yes	Count	101	80	55	236	X^2= 5.999 Df = 2 **P Value = 0.05**
		%	99.0%	100.0%	94.8%	98.3%	
	May be	Count	1	0	3	4	
		%	1.0%	0.0%	5.2%	1.7%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 14	Yes	Count	78	55	43	176	X^2= 6.224 Df = 4 P Value = 0.183
		%	76.5%	68.8%	74.1%	73.3%	
	No	Count	14	8	4	26	
		%	13.7%	10.0%	6.9%	10.8%	
	May be	Count	10	17	11	38	
		%	9.8%	21.3%	19.0%	15.8%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 15	Yes	Count	4	3	1	8	X^2= 1.747 Df = 4 P Value = 0.782
		%	3.9%	3.8%	1.7%	3.3%	
	No	Count	83	69	48	200	
		%	81.4%	86.3%	82.8%	83.3%	
	May be	Count	15	8	9	32	
		%	14.7%	10.0%	15.5%	13.3%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	

X^2(Chi square test), Df = Degree of freedom; P < 0.05 Significant

of aerosols and droplets in the transmission of the virus from person to person, surprisingly 21.7% of them were ignorant about the role of poorly sterilized or infected dental instruments in the transmission of COVID-19. Majority of them similarly have knowledge about symptoms as well as consequences of the disease, but only a hopeless minority (11.3%) of them had government official helpline number available with them for referring the suspected COVID-19 patients.

DHPs generally work in close contact with patients. Recently an article published by New Year Times describes that DHPs are the workers who are comparatively at highest risk of getting COVID-19 infection than any other health care workers.[21] Transmission of this virus occurs predominantly through inhalation, direct mucous contact with saliva and blood droplets. It is also worth noting that the virus could survive on hands, objects or surfaces that were exposed to infection.[16,22] Human Saliva contains a high viral load. Although antiseptic mouth rinses before the start of the dental procedures help reduce microbial loads, these are unable to eliminate the virus in the saliva.[16,23] Therefore, before undertaking treatment, DHPs must follow the updated Dental Council of India (DCI) guidelines[23] and take up recommend steps for primary diagnosis of possible COVID-19 infection in the patients reporting to the clinics for dental ailments. Before entering

Table 5: Attitude towards novel coronavirus (COVID- 19) among dental professionals

Questions	Options		Qualification			Total	Statistical inference
			Interns	BDS	MDS		
Q. No. 16	Yes	Count	102	79	57	238	X^2 = 1.582 Df = 2 P Value = 0.453 (Non- Significant)
		%	100.0%	98.8%	98.3%	99.2%	
	May be	Count	0	1	1	2	
		%	0.0%	1.3%	1.7%	0.8%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 17	Yes	Count	77	56	39	172	X^2 = 2.204 Df = 4 P Value = 0.698
		%	75.5%	70.0%	67.2%	71.7%	
	No	Count	4	2	3	9	
		%	3.9%	2.5%	5.2%	3.8%	
	May be	Count	21	22	16	59	
		%	20.6%	27.5%	27.6%	24.6%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 18	Yes	Count	9	2	2	13	X^2 = 4.799 Df = 4 P Value = 0.309
		%	8.8%	2.5%	3.4%	5.4%	
	No	Count	36	32	19	87	
		%	35.3%	40.0%	32.8%	36.3%	
	May be	Count	57	46	37	140	
		%	55.9%	57.5%	63.8%	58.3%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 19	Yes	Count	85	56	46	187	X^2 = 9.064 Df = 4 P Value = 0.06
		%	83.3%	70.0%	79.3%	77.9%	
	No	Count	10	18	5	33	
		%	9.8%	22.5%	8.6%	13.8%	
	May be	Count	7	6	7	20	
		%	6.9%	7.5%	12.1%	8.3%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	
Q. No. 20	Yes	Count	89	66	49	204	X^2= 1.358 Df = 4 P Value = 0.851
		%	87.3%	82.5%	84.5%	85.0%	
	No	Count	10	11	8	29	
		%	9.8%	13.8%	13.8%	12.1%	
	May be	Count	3	3	1	7	
		%	2.9%	3.8%	1.7%	2.9%	
	Total	**Count**	**102**	**80**	**58**	**240**	
		%	**100.0%**	**100.0%**	**100.0%**	**100.0%**	

X^2(Chi square test), Df = Degree of freedom; P < 0.05 Significant

into the operating areas, each patient should be initially screened for body temperature (using thermal scanners). They should also be subjected to questions through a well-designed questionnaire about the patient's general health status in the last fourteen days, travel history, and about the risk of having been in contact with other infected persons. The suspected case should be referred to the nearby COVID-19 health care centre. DHPs are also advised to take proper personal protection measures and avoid or minimize dental procedures that can produce droplets or aerosols such as by frequently using saliva ejectors.[23]

5. Conclusions

Dental health care professionals have the duty to protect themselves, their patients, and the public by maintaining high standards of oral health care by following proper infection control measures in their working areas. The present survey has revealed that the DHPs of Hazaribag district of Jharkhand state have a reasonably good knowledge of COVID-19. However, there still appears to be a need for acquiring complete updated details about the disease. Since no definite treatment is currently available for SARS- CoV-2 infection, it is of utmost importance that DHPs are fully loaded with knowledge of different aspects of COVID-19 in general and its transmission mechanism

in particular. This will enable them to make a plan for undertaking dental treatment and also to educate the patient to prevent transmission of this fatal disease.

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8. Conflict of Interest

None.

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