

## Short communication

**Knowledge regarding COVID-19 among the teaching professionals of Karnataka**

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**ABSTRACT**

**Introduction and Aim:** Around the world, the COVID -19 pandemic has had an impact on the lives of more than 349 million individuals. Educational institutions especially the faculty and students have an important role in preventing the spread of COVID-19 virus. The objective of the study was to assess the knowledge regarding COVID19 among the teaching professionals of Karnataka.

**Material and Methods:** A self-administered, pretested questionnaire was used to assess the knowledge regarding COVID 19 among the teaching Professionals of Karnataka State, India. Descriptive statistics were used in the present study to report the frequency/ percentage of responses for individual items. The total score was calculated for individual participants. Chi-square test was used to analyse the total scores with respect to the socio demographic variables.

**Results:** Sixty teachers participated in the survey, with all of them being aware of the COVID-19 pandemic. The majority (96.7%) acknowledged person-to-person transmission, and 90% were informed about the absence of a COVID-19 vaccine. Regarding symptoms, 95% recognized fever, cough, and breathing difficulty. Additionally, 98.3% identified social distancing, wearing masks, and frequent handwashing as preventive measures, while 96.7% advocated avoiding handshakes entirely.

**Conclusion:** The knowledge among teaching professionals in Karnataka regarding COVID19 was good.

**Keywords:** COVID 19; teachers; knowledge; SARS CoV2.

**INTRODUCTION**

In early December 2019, A previously unidentified viral infection triggered an unusual outbreak of viral pneumonia in Wuhan, Hubei Province, China (1-4). The etiological agent was named as the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) by the World Health Organisation (5). The virus was posing a significant threat to global health. The World Health Organisation classified the outbreak as a Public Health Emergency of International Concern on January 30, 2020, and a Pandemic on March 11, 2020, as a result of its expanding geographic spread. About 349 million (186–787) people are at high risk of severe COVID-19. According to predictions, one in five people globally have a disease that puts them at risk for developing severe COVID-19. The severity of the infection was predominantly seen among the geriatric population (more than 66%) groups as compared to the younger population groups (less than 5%).

Coronaviruses belong to a family of enveloped RNA viruses. It derived its name due to its structural resemblance to a crown. They are infectious to both animals and humans causing mild to severe respiratory illness in humans. Examples for such respiratory illness are severe acute respiratory syndrome (SARS) in 2003 and Middle-East Respiratory Syndrome (MERS) in 2012 (6).

The lungs are primarily affected with COVID-19 virus, and the patients' present symptoms ranging from mild flu-like symptoms to pneumonia leading to lethal respiratory distress. Loss of taste and smell, irritation in the throat, severe headache, mild to high grade fever are few other symptoms of COVID-19. The mortality rate is about 1-2% in geriatric patients who develop severe acute respiratory syndrome (7). Research shows that the virus is transmitted mainly through saliva droplets and the possibility that salivary glands act as a reservoir of infection (8). A few oral signs have also been documented in addition to the significance of saliva for virus transmission. These include ulcers, vesiculobullous lesions, altered taste sensation, oral burning, xerostomia, glossodynia, and dysphagia (9).

The major step taken by the countries worldwide was imposing a lockdown and especially closure of schools and colleges. Although infection of the virus can be found in any age group of the population, school children form an important group for transmission of COVID-19 virus. Therefore, it is very essential to have preparedness among the teaching professionals regarding COVID-19 pandemic.

Teachers are the powerful agents of change especially for the next generation. The educational set up should provide a safe and healthy environment for the students. To stop the transmission of disease and ensure that the school runs efficiently, specific

protocols or rules should be created. Specific protocols or guidelines should be drawn to prevent the spread of virus and facilitate the smooth functioning of the school. At the same time care should be taken to impede the social stigma among the faculty and students who are exposed to COVID-19. The schools should work with a mission to provide a safe COVID ready workplace and facilitate effective functioning of the system. Proper knowledge regarding COVID-19 will reduce the fear and anxiety about the pandemic and promote a healthy environment in the school. There are also very limited studies that document knowledge regarding COVID-19 among teaching professionals; hence, the need for the present study with the objective of assessing the knowledge regarding COVID-19 among the teaching professionals of Karnataka.

## MATERIAL AND METHODS

The teaching professionals in the state of Karnataka were the subjects of this cross-sectional survey. The understanding of COVID 19 among the educational professionals of Karnataka State, India, was evaluated using a self-administered, pretested questionnaire. The questionnaire is prepared in the form of Google docs and the link was sent to the teachers through WhatsApp. Kindergarten teachers, higher primary school teachers, high school teachers, Pre-university lecturers and degree college lecturers teaching in the state of Karnataka, India were included in the study. The data obtained through the survey was analysed using SPSS software 17.0 (SPSS Inc, Chicago). Descriptive statistics were used in the present study to report the frequency/ percentage of responses for individual items. A score of '1' was given for each correct answer. The total score was calculated for individual participants. A total score of 8-10 was considered as 'Good', 5-7 was considered 'Fair' and 4 or less was considered as 'Poor'. The total scores were compared between various socio-demographic variables using the Chi-square test. Statistics were deemed to be significant at p values under .05. The Institutional Ethical Committee gave its permission for the study's conduct. Participation in the survey was voluntary.

## RESULTS

A total of 60 teachers across Karnataka state participated in the survey. Out of the total respondents 38.3% were degree college teachers, 16.75% were higher primary school teachers, 15% were high school teachers and the remaining were the teachers of kindergarten, pre-university lecturers, teacher trainees. Table 1 shows the socio-demographic distribution of the study participants.

**Table 1:** Socio-demographic distribution of the study participants

Parameters		No
Age	21-30 years	15
	31 - 40 years	20
	41 - 50 years	16
	51 - 60 years	6
	61 years and more	3
	Total	60
Gender	Male	47
	Female	13
	Total	60
Profession	Kindergarten Teacher	3
	Primary school teacher	15
	High school teacher	11
	PU Lecturer	6
	Degree college lecturer	25
	Total	60

Table 2 shows the responses of the teachers to individual questions on knowledge regarding COVID19. COVID-19 infection is possible during asymptomatic phase and a vast majority (95%) responded All of them (n=60) were aware of the coronavirus pandemic (100%). About 81.7% teachers responded that the Novel Coronavirus 2019 (COVID - 19) is also known as SARSCoV2. Majority of them (96.7%) responded that Novel Coronavirus 2019 is transmitted from person to person and 90% of them were aware that there is no vaccine currently available for COVID19. About 83.3% of the teachers responded that the transmission of that fever, cough and breathing difficulty are the symptoms of COVID19 infection. Approximately 98.3% of the teachers responded that social distance of 1 metre, wearing a mouth mask and washing hands frequently are the preventive measures during COVID-19 pandemic and 96.7% of them agreed that it is better to completely avoid handshake. About 80% of the teachers responded correctly that 20 seconds is the ideal duration to wash the hands and about 96.7% of the teachers were aware that elderly patients, young children, people with existing diseases like high BP, diabetes etc. are vulnerable for COVID-19 infection.

Table 3 shows the correlation of the knowledge scores with the socio-demographic variables. There was no significant difference between age/ gender/ profession to the interpretation of knowledge score. The knowledge regarding COVID19 was good across all categories.

**Table 2:** Responses of the teaching professionals to questions on knowledge regarding COVID-19

Sl. No.	Question	Responses	N	%
1	Are you aware of the Coronavirus pandemic	Yes	60	100
		No	0	0
		Maybe	0	0
2	The Novel Coronavirus 2019 (COVID-19) is also known as	MERS	4	6.7
		SARS Cov 2	49	81.7
		Nipah Virus	7	11.7
		HIV	0	0
3.	Can Novel Coronavirus 2019 (COVID-19) be transmitted from person to person	Yes	58	96.7
		No	2	3.3
		Maybe	0	0
4.	Is Vaccine available for COVID-19	Yes	3	5
		No	54	90
		Maybe	3	5
5.	Is transmission of COVID-19 infection possible during asymptomatic phase	Yes	50	83.3
		No	4	6.7
		Maybe	6	10
6.	Which among the following are the symptoms of COVID 19 infection	Fever	1	1.7
		Cough	0	0
		Breathing Difficulty	2	3.3
		All of the above	57	95
7.	Which among the following is the preventive measure during COVID-19 pandemic	Social distance of 1 metre	1	1.7
		Wearing mouth mask	0	0
		Washing hands frequently	0	0
		All of the above	59	98.3
8.	Is it better to completely avoid handshake	Yes	58	96.7
		No	2	3.3
		Maybe	0	0
9.	What is the ideal duration to wash the hands	1 sec	0	0
		20 sec	48	80
		1 min	5	8.3
		2 min	7	11.7
10.	Who are vulnerable for COVID-19 infection among the following	Elderly patients	2	3.3
		Young Children	0	0
		People with existing diseases like high BP, diabetes etc.	0	0
		All of the above	58	96.7

**Table 3:** Correlation of socio-demographic variables with knowledge score interpretation

Parameters		Knowledge Score Interpretation		Total	Significance
		Fair	Good		
Age	21-30 years	2	13	15	$X^2 = 3.796$ , NS
	31 - 40 years	1	19	20	
	41 - 50 years	0	16	16	
	51 - 60 years	1	5	6	
	61 years and more	0	3	3	
	Total	4	56	60	
Gender	Male	2	45	47	$X^2 = 2.02$ , NS
	Female	2	11	13	
	Total	4	56	60	
Profession	Kindergarten Teacher	0	3	3	$X^2 = 1.933$ , NS
	Primary school teacher	1	14	15	
	High school Teacher	0	11	11	
	PU Lecturer	0	6	6	
	Degree College Lecturer	3	22	25	
	Total	4	56	60	

NS= Not significant.

## DISCUSSION

The present study was conducted among the teaching professionals in Karnataka State. Studies assessing knowledge regarding COVID-19 have been conducted in different groups. However, there is a lack of information regarding knowledge among school teachers. The findings of the current investigation demonstrated that school teachers had a good knowledge regarding the COVID-19 disease. The majority of instructors were knowledgeable with the COVID-19 disease, its symptoms, and the different precautions that should be followed to prevent the spread of the illness. A study conducted in Tamil Nadu reported that the teachers had fair knowledge regarding the COVID-19 (10). This difference could be due to the time when the study was conducted. There was not much information available regarding the COVID19 in the earlier months of 2020. However, the latter half of 2020, there is an enormous literature available and accessible even to the lay public.

School teachers form an important group because they need to teach and interact with a large number of children of various age groups in school. They form the backbone in school in inculcating good habits in children and maintaining school discipline. Health of the school children as well as the health of school teachers is a major concern. If proper preventive protocol is not in place, there will be transmission of infection to the other people in the community from the schools. Hence, all stakeholders need to be vigilant and need to take necessary steps to ensure that the school teachers and the children are safe and healthy. Detailed Standard Operating Protocols need to be in place and should be meticulously followed.

Limited sample size is one of the study's limitations. As this survey questionnaire was shared on WhatsApp, the response rate was low when compared to studies conducted in person. However, since that was the time of pandemic and restriction of movement was advocated for controlling the spread of disease, sharing the questionnaire on social media and also getting responses without any incentives and on based voluntary participation needs to be appreciated.

## CONCLUSION

Teaching professionals in Karnataka have a good knowledge regarding the signs and symptoms and prevention of COVID-19. Rigorous training programs on Infection control for school teachers will be beneficial in maintaining healthy schools and in turn a healthy society.

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## CONFLICT OF INTEREST

There is no competing interest amongst the authors.

## REFERENCES

1. Hui, D.S., Azhar, I. E., Madani, T.A., Ntoumi, F., Kock, R., Dar, O., *et al.*, The continuing 2019-nCoV epidemic threat of novel coronaviruses to global health - The latest 2019 novel coronavirus outbreak in Wuhan, China. *Int J Infect Dis.* 2020; 91: 264-266.
2. Devendra, S., Vishnu, A. A review on the COVID-19, its history, diagnostic approaches, role of herbs and current world scenario. *Biomedicine.* 2021 Sep 7;41(2):328-332.
3. Thalanjeri, P., Balakrishnan, G., Bangera, S., Biju, N., Balasubramaniam, K. Impact of COVID-19 pandemic lockdown on the mental health status of Indian undergraduate health professional students. *Biomedicine.* 2022 Sep 12;42(4):778-783.
4. Rai, S., Rai, T., Sindhu, H., Rai, S., Pakkala, R. Covid vaccine dilemma curbing the herd immunity in India-Jab or no jab?. *Biomedicine.* 2021 Dec 31;41(4):706-713.
5. World Health Organization. Novel Coronavirus (2019-nCoV). Situation Report--22, Data as reported by 11 February 2020.
6. Clark, A., Jit, M., Warren-Gash, C., Guthrie, B., Wang, H. H. X., Mercer, S. W., *et al.*, Global, regional, and national estimates of the population at increased risk of severe COVID-19 due to underlying health conditions in 2020: a modelling study. *Lancet Glob Health.* 2020;8(8): e1003–e1017.
7. Guan, W., Ni, Z., Hu, Y., Liang, W., Ou, C., He, J., *et al.*, Clinical characteristics of Coronavirus Disease 2019 in China. *N Engl J Med.* 2020; 382(18):1708-1720.
8. Zhong, F., Liang, Y., Xu, J., Chu, M., Tang, G., Hu, F., *et al.*, Continuously high detection sensitivity of saliva, viral shedding in salivary glands, and high viral load in patients with COVID-19. *SSRN Electron J.* 2020. Available at <http://dx.doi.org/10.2139/ssrn.3576869>.
9. Diaz Rodriguez, M., Jimenez Romera, A., Villarroel, M. Oral manifestations associated with COVID-19. *Oral Dis.* 2022;28 (Suppl 1): 960-962.
10. Reshawn, M., Abilasha, R. Awareness about coronavirus symptoms among school teachers and students-A knowledge-based survey in south Tamil Nadu. *International Journal of Research in Pharmaceutical Sciences* 2020;11 (Suppl 1):632-640.