



Comparative analysis of the knowledge regarding COVID-19 amongst Medicos and General Public in Bengaluru.

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Abstract

COVID-19 or Coronavirus Disease 2019 is a global pandemic as declared by WHO on March 11, 2020¹. The first outbreak was reported as a cluster of cases of pneumonia in Wuhan, Hubei Province, China on 31st December 2019². The first case of COVID-19 infection reported in India was from Thrissur, Kerala on January 27, 2020³. Since then, there have been several guidelines and still questions exist regarding lockdown, quarantine, isolation, containment zones, face masks, social distancing, dead Covid patient disposal, etc. The knowledge regarding the disease is still developing as it continues to target mankind every passing day. The healthcare providers and the general public both need to be educated and trained to manage the diverse difficulties arising due to the pandemic. Behavioural modification needs to be aimed too. Therefore, to know the prevailing knowledge regarding COVID-19 amongst the medicos and the public in general, authors are motivated to compare and analyse the knowledge regarding COVID-19 amongst Medicos and the Public. It was found as expected that medicos had a better knowledge about COVID-19. However, it is also alarming that a considerable proportion of Medicos were having false/ no information regarding the questions.

Keywords: COVID-19; Knowledge; Medicos; Public, Bengaluru

Introduction

Coronaviruses are a large family of viruses that cause illnesses ranging from the common cold to more severe diseases such as MERS-CoV and SARS-CoV. COVID-19 disease is caused by a novel Coronavirus, i.e., a new strain of coronavirus⁴. "CO" stands for Corona, "VI" for the virus, and "D" for disease. The COVID19 virus is a new virus related to the same family of viruses as severe acute respiratory syndrome (SARS) and certain types of colds. The disease is spread through direct contact with the respiratory droplets of an infected person and through fomites. It may survive on different surfaces for several hours. The disease causes many symptoms

which include fever, cough, sore throat, malaise, headache, shortness of breath, gastrointestinal symptoms like diarrhoea, vomiting, and neurological symptoms like loss of sense of smell, taste, etc. In severe cases, it may lead to pneumonia and may be fatal. Many precautions like frequent hand washing, facemasks, and social distancing have been found helpful. So far, vaccination seems to be the most effective way to curb the dangers of COVID-19 Disease. India has indigenously manufactured⁵ vaccines, the Serum Institute of India's COVISHIELD and Bharat N Biotech's COVAXIN which have been accepted by the WHO for Emergency Use Listing⁵. Russian manufactured

vaccine SPUTNIK has also been authorized by DGCI (Drug Controller General of India) to be the third COVID-19 Vaccine to be used for emergency purpose⁶. The Government has also set certain directions for covid control in India. Districts have been classified as Green Zone, Orange Zone, Red Zone, or containment zone, based on the severity of the virus spread in that area. If a particular district has over 15 cases, then it will be considered a hotspot, and be classified as a red zone. For districts whose COVID-19 cases are below 15 and don't seem to be increasing at present, they will be labelled as orange zones. Green zones will be the districts with zero COVID-19 cases⁷. According to the Union Ministry of Health and Family Welfare, containment zones are specific geographical areas in which positive cases of COVID-19 are found in large numbers. These zones are created to map and prevent local transmission^{8,9}. They are identified by the Rapid Response Team (RRT) based on the extent of cases listed and mapped by them. Rapid response teams demarcate the area of a 3-kilometer radius around the epicentre (the residence of the positive case or where they have been isolated) in case contact listing and mapping take more than 24 hours. This area of a 3 km radius is called the containment zone. The red, orange and green zones are operated at the state and inter-district levels, while the demarcation of containment zones is done within a town, village, or municipal or panchayat area. Isolation is when a person confirmed to have COVID-19 must separate themselves from healthy individuals around them¹⁰. This is done to prevent the spread of infection among the common masses. Isolation lasts until the individual is free of symptoms and tests negative for the virus. For people who have confirmed they have COVID-19, isolation is appropriate. Isolation is a health term that means keeping people who are infected with a contagious disease away from those who are not. Isolation can take place at home or in a hospital or care facility. Special personal protective equipment will be used for the management of these patients in health facilities¹¹. A Suspect is a patient with acute respiratory illness {fever and at least one sign/symptom of respiratory disease (e.g., cough, shortness of breath)}, AND a history of travel to or residence in a country/area or territory reporting local

transmission of COVID-19 disease during the 14 days before symptom onset; OR A patient/Health care worker with any acute respiratory illness AND having been in contact with a confirmed COVID-19 case in the last 14 days before the onset of symptoms; OR A patient with severe acute respiratory infection {fever and at least one sign/symptom of respiratory disease (e.g. , cough, shortness breath)} AND requiring hospitalization AND with no other aetiology that fully explains the clinical presentation; OR A case for which the COVID19 test is inconclusive¹². The cause of death in a critically ill COVID-19 patient was mostly COVID-19-related MODS and secondary infections. The leading cause of death due to COVID-19 is refractory respiratory failure, Cardiac deaths-including pulmonary embolisms, and cardiac arrests. Neurological deaths include haemorrhagic and ischemic strokes¹³. Persons handling COVID-19 patients/dead bodies are at considerable risk. Standard infection prevention control practices should be followed at all times. Embalming of a confirmed covid-positive dead body is not allowed¹⁴. In Bangalore, a COVID-19 positive Dead body is handed over to District Administration in the presence of relatives¹⁵. Personal Protective Equipment (PPE) is specialized clothing or equipment worn by a person for protection against infectious agents like the COVID-19 Virus. A full PPE kit is mandatory to be worn by the person for the preparation and packing of a COVID-19 confirmed dead body.

Materials and Methods:

This is a cross-sectional study carried out at tertiary care teaching hospital in Bengaluru from the 9th of October 2020 to the 14th of April 2021. A Questionnaire was prepared and validated, consisting of 10 questions related to COVID-19 with three options as the answer to each question. A total of 165 persons were included in the study which consisted of two study groups one containing 91 medical professionals & the other containing 74 people from the community representing the general public. The respondents were asked to select an appropriate answer to each question. Their responses were recorded, and both groups were compared.

Results:

What is an Orange Zone?				
Answers	Medicos	Percentage	Non-medicos	Percentage
The zone that has not reported a single case in 14 days.	82	90.10%	52	70.27%
The zone has not reported any cases over 28 days.	09	9.90%	14	18.92%
Zone with the highest incidence of cases	0	0.00%	08	10.81%
Total	91	100%	74	100%

Out of 91 Medicos, 82, i.e., 90.10% answered that Orange Zone means Zone that has not reported a single case in 14 days compared to 52(70.27%) out of 74 Non-Medicos. 9(9.90%) of the 91 Medicos believed that Orange Zone means Zone which has not reported any case over 28 days as compared to 14(18.92%) Non-Medicos. None of the Medicos thought Orange Zone to be the Zone with the highest incidence of cases compared to 8(10.81%) Non-Medicos.

What is meant by Containment Zone?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Zone marked if more than 10 cases of coronavirus are reported.	37	40.66%	31	41.89%
Zone marked if more than 100 cases of coronavirus are reported.	28	30.77%	24	32.43%
Zone marked if more than 4 cases of coronavirus are reported.	26	28.57%	19	25.68%
Total	91	100%	74	100%

Out of 91 Medicos, 37(40.66%) answered that Containment Zone means a Zone that is marked if more than 10 cases of coronavirus are reported compared to 31(41.89%) out of 74 Non-Medicos. 28(30.77%) of the 91 Medicos believed that Containment Zone means a Zone that is marked if more than 100 cases of coronavirus are reported as compared to 24(32.43%) Non-Medicos. 26(28.57%) amongst the Medicos thought Containment Zone to be a Zone that is marked if more than 4 cases of coronavirus are reported as compared to 8(10.81%) Non-Medicos.

What is meant by isolation?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Curfew like situation	01	01.10%	07	09.46%
Separates sick people with a contagious disease from people who are not sick.	78	85.71%	35	47.30%

Separating and restricting the movement of people who are exposed or are potentially exposed to a contagious disease.	12	13.19%	32	43.24%
Total	91	100%	74	100%

Out of 91 Medicos, 01, (1.10%) answered that Isolation means Curfew like situation compared to 7(9.46%) out of 74 Non-Medicos. 78(85.71%) of the 91 Medicos believed that Isolation means Separating sick people with a contagious disease from people who are not sick as compared to 35(47.30%) Non-Medicos. 12(13.19%) Medicos thought that Isolation means Separating and restricting the movement of people who are exposed or are potentially exposed to a contagious disease compared to 32(43.24%) Non-Medicos.

What is COVID-19 suspect means?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Don't know	03	03.30%	06	08.11%
With symptoms of flu	08	08.79%	06	08.11%
With symptoms of flu & respiratory distress	80	87.91%	62	83.78%
Total	91	100%	74	100%

Out of 91 Medicos, 03, (3.30%) answered that they don't know what COVID-19 suspect means compared to 6(8.11%) out of 74 Non-Medicos who also didn't know what COVID-19 Suspect means. 8(8.79%) of the 91 Medicos believed that COVID-19 suspect means Patients with symptoms of flu as compared to 6(8.11%) Non-Medicos. 80(87.91%) Medicos thought that COVID-19 suspect means Patients with symptoms of flu & respiratory distress as compared to 62(83.78%) Non-Medicos.

What is the cause of death in COVID-19-positive patients?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Cardiac failure	05	05.49%	06	08.11%
Don't know	03	03.30%	09	12.16%
Respiratory failure	83	91.21%	59	79.73%
Total	91	100%	74	100%

Out of 91 Medicos, 5(5.49%) answered the cause of death in COVID-19-positive patients is Cardiac Failure compared to 6(8.11%) out of 74 Non-Medicos. 3(3.30%) of the 91 Medicos didn't know the cause of death in COVID-19 positive patients as compared to 9(12.16%) Non-Medicos who also didn't know the cause of death

in COVID-19 positive patients. 83(91.21%) Medicos thought that the cause of death in COVID-19 positive patients is a respiratory failure as compared to 59(79.73%) Non-Medicos.

Persons handling the COVID-19 patients/ dead bodies for transfer are at?				
Answers	Medicos	Percentage	Non-medicos	Percentage
High risk	79	86.81%	58	78.38%
Low risk	4	04.40%	3	04.05%
Moderate risk	8	08.79%	13	17.57%
Total	91	100%	74	100%

Out of 91 Medicos, 79(86.81%) answered that Persons handling the COVID-19 patients/ dead bodies for transfer are at high risk compared to 58(78.38%) out of 74 Non-Medicos. 4(4.40%) of the 91 Medicos believed that Persons handling the COVID-19 patients/ dead bodies for transfer are at low risk as compared to 3(04.05%) Non-Medicos who also didn't know the cause of death in COVID-19 positive patients. 8(8.79%) Medicos thought that Persons handling the COVID-19 patients/ dead bodies for transfer are at Moderate risk as compared to 13(17.57%) Non-Medicos.

Is embalming advisable in confirmed COVID-19 positive?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Yes	7	7.69%	13	17.57%
No	50	54.95%	17	22.97%
Don't know	34	37.36%	44	59.46%
Total	91	100%	74	100%

Out of 91 Medicos, 7(7.69%) answered that embalming is advisable in confirmed COVID-19 positive compared to 13(17.57%) out of 74 Non-Medicos. 50(54.95%) of the 91 Medicos believed that embalming is not advisable in confirmed COVID-19 positive as compared to 17(22.97%) Non-Medicos. 34(37.36%) Medicos didn't know whether embalming is advisable or not in confirmed COVID-19 positive as compared to 44(59.46%) Non-Medicos.

COVID-19-positive Dead body is handed over to?				
Answers	Medicos	Percentage	Non-medicos	Percentage
District Administration	50	54.95%	30	40.54%
Relatives	5	05.49%	1	01.35%

Relatives in presence of district administrative	36	39.56%	43	58.11%
Total	91	100%	74	100%

Out of 91 Medicos, 50(54.95%) answered that COVID-19 positive Dead body is handed over to District Administration compared to 30(40.54%) out of 74 Non-Medicos. 5(5.49%) of the 91 Medicos believed that COVID-19-positive Dead body is handed over to Relatives as compared to 1(1.35%) Non-Medicos. 36(39.56%) Medicos thought that COVID-19-positive Dead bodies are handed over to Relatives in presence of the District Administration as compared to 43(58.11%) Non-Medicos.

What are the protective types of equipment mandatory for the preparation and packing of a COVID-19 confirmed dead body?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Full PPE	82	90.11%	60	81.08%
N95 mask and gloves	04	04.40%	04	05.41%
Triple layer mask and gloves	05	05.49%	10	13.51%
Total	91	100%	74	100%

Out of 91 Medicos, 82(90.11%) answered that Full PPE kits are the protective types of equipment mandatory for the preparation and packing of a COVID-19 confirmed dead body compared to 60(81.08%) out of 74 Non-Medicos. 4(4.40%) of the 91 Medicos believed that N95 Mask and Gloves are the protective types of equipment mandatory for the preparation and packing of a COVID-19 confirmed dead body as compared to 4(5.41%) Non-Medicos. 5(5.49%) Medicos thought that Triple Layer Mask and Gloves are the protective types of equipment mandatory for the preparation and packing of a COVID-19 confirmed dead body as compared to 10(13.51%) Non-Medicos.

What is meant by PPE?				
Answers	Medicos	Percentage	Non-medicos	Percentage
Personal preventive equipment	6	06.59%	4	05.41%
Personal protective equipment	80	87.91%	55	74.32%

Protective equipment	preventive	5	05.50%	15	20.27%
Total		91	100%	74	100%

Out of 91 Medicos, 6(6.59%) answered that PPE meant Personal Preventive Equipment compared to 4(5.41%) out of 74 Non-Medicos. 80(87.91%) of the 91 Medicos believed that PPE meant Personal Protective Equipment as compared to 55(74.32%) Non-Medicos. 5(5.50%) Medicos thought that PPE meant Protective Preventive Equipment as compared to 15(20.27%) Non-Medicos.

Discussion

The knowledge about COVID-19 and its guidelines is still developing. In our study, we prepared a questionnaire with 10 questions related to COVID-19. Different Zones, Isolation, COVID Suspect, Cause of death in covid patients, handling of COVID-positive dead body, and PPE kit were the topics on which the questions were based. All respondents practiced wearing facial masks, hand hygiene, and social distancing to prevent COVID-19 infections. It was found as expected that medicos had better knowledge about COVID-19. However, it is also alarming that a considerable proportion of Medicos were having false/ no information regarding the questions. This shows that information spread through various health programs and interventions taken to prevent and control epidemics must be delivered in an understandable language so that both medicos and the public gather knowledge of the disease and its problems. It is always vague to quantify knowledge to be sufficient for desired health outcomes. However, the impact of knowledge on health behaviours has been validated in many public health areas^{16,17,18}. To date, several KAP studies have examined associations of knowledge with attitudes or practices beyond understanding the prevalence of each. The results of these previous studies revealed that a higher level of knowledge is positively related to the practice of preventive measures^{17,18,19,20}. This study on COVID-19 assessment of knowledge amongst medicos and the general public in Bangalore revealed that considerable numbers of respondents were aware of the common symptoms of COVID-19 and other interventional terminologies related to it. With the advent of social media, television, other electronic news portals, etc, and efforts of the health department in India, the knowledge regarding the pandemic has spread considerably that people in general somewhat

understand the problems related to various COVID-19 events. However, as this is the latest outbreak (Novel Corona Virus), scientific information is yet to be published in leading Medical Books commonly read by undergraduates and medicos. Hence, the knowledge is still evolving and has not reached the peak level which is expected from medicos.

Limitations:

This study has a few limitations. First, the study was conducted through online mode. Secondly, the study was conducted in tertiary care teaching hospital in Bengaluru. Hence it would not reflect the knowledge of Medicos and the general public of Karnataka or India as a whole. Third, we performed the present study to compare the knowledge of the two different groups of respondents who are not similar in characteristics and based on the previous studies on COVID-19 KAP by the other researchers adhering to the locale of the study and pandemic situation.

Conclusion:

The article compares the knowledge regarding COVID-19 between Medicos and General Public in Bengaluru. Knowledge is not quantifiable but based on our questionnaire, we found that Medicos had a slightly better knowledge about COVID-19 than the General Public. The knowledge regarding the pandemic in General Public is at a level where they understand various COVID-19 events. But many medicos had vague/no idea regarding a few questions, so the Medicos need to broaden their scope of knowledge. An experimental trial study can be imparted to teaching medical students and interns the various aspects of new emerging diseases including COVID-19. A new pandemic can also evolve in near future, so we need to prepare the medicos for the control of new pandemics in future. Planning and Coordination between Health and Education department along with other sectors is utmost

important. Practice of Essential COVID-19 measures and participation of all is the only way to curb the further rise and spread of infection of the pandemic.

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