Available online at **www.ijmrhs.com**

ISSN No: 2319-5886

International Journal of Medical Research & Health Sciences, 2022, 11(6): 53-58

An Observational Study of Covid Safety Practices in Patients Attending a Tertiary Care Hospital

Fazila Patankar* **and Abhiram Behera**

Community Medicine Department, Terna Medical College/MUHS, India

**Corresponding e-mail: fazilapatankar74@gmail.com*

Received: 05-May-2022, Manuscript No. ijmrhs-22-62899; **Editor assigned:** 07-May-2022, PreQC No. ijmrhs-22-62899 (PQ); **Reviewed:** 07-June-2022, QC No. ijmrhs-22-62899 (Q); **Revised:** 24-June-2022, Manuscript No. ijmrhs-22-62899 (R); **Published:** 30-June-2022, J-invoice: J-62899

ABSTRACT

Background: *Ever since the COVID-19 outbreak was reported from China, it has achieved global proportions and has been declared a pandemic. Despite the availability of a vaccine and antiviral treatments being offered, the pandemic continues to rage on. The public must routinely follow COVID19 safety precautionary practices to control the spread of COVID-19. This paper examines the Covid safety practices of patients attending a tertiary care hospital and aims to provide recommendations for behavioral interventions and policies.* ***Materials and Methods:*** *A cross-sectional observational study was carried out at the screening Centre of a tertiary hospital over 1 month. Systematic random sampling was done and every 5th patient was observed with regards to their COVID safety practices using a validated checklist. 400 study subjects were included in the study.* ***Results:*** *96% were wearing masks, however only 50.52% were wearing them properly, 57.3% of our study subjects did not use the sanitizer, (53%) did not follow social distancing, 18.75% were seen to follow excellent practices, 50.8% practices were good to average and 30% subjects practices were poor.* ***Conclusion:*** *Among the influencing factors of COVID-19 safety practices, education was the most influential and significant factor.*

Keywords: COVID-19, COVID Safety Practices, Observational Study

INTRODUCTION

A novel Coronavirus, 'COVID-19', is in charge of the current outbreak of pneumonia that began at the beginning of December 2019 near Wuhan City, Hubei Province, China. COVID-19 is caused by the SARS-CoV-2 virus, which spreads between people, mainly when an infected person is in close contact with another person. The virus can spread from an infected person's mouth or nose in small liquid particles when they cough, sneeze, speak, sing or breathe heavily. These liquid particles are of different sizes, ranging from larger 'respiratory droplets' to smaller 'aerosols'. Other people can catch COVID-19 when the virus gets into their mouth, nose, or eyes, which is more likely to happen when people are in direct or close contact (less than 1 meter apart) with an infected person. Current evidence suggests that the main way the virus spreads is by respiratory droplets among people who are in close contact with each other [1-3].

Globally, as of 10 January 2022, WHO has reported 305,914,601 confirmed cases of COVID-19, including 5,486,304 deaths with India reporting, 707,727 confirmed active cases of COVID-19 with 483,936 deaths [4]. According to the Government of India and Ministry of Health and Family Welfare data, 34570131 were affected, 821446 active cases and the fatality is 484213 deaths [5].

The course of COVID-19 in India initially seemed under control, with relatively lower rates of infection despite the large population; however, the number of COVID-19 cases is increasing rapidly, especially with the emergence of the newer variants. Further with the introduction of the COVID-19 vaccination and effective treatment of covid positive patients, there is a false sense of security due to which it was observed that the safety norms for COVID-19 were not

being followed stringently. Lockdown measures have also been relaxed by the governments and the general public has resumed most of their activities and work except in schools and colleges. However, to consolidate the substantial gains that have been achieved against the spread of COVID-19 and to fully overcome the pandemic there is a need to maintain caution and strictly follow the prescribed national guidelines of COVID-19 management which include face coverings, social distancing, screening, and hygiene and frequent sanitization [6].

According to the World Health Organization (WHO) the prevention and control of an epidemic and pandemic constitutes following preventive measures like hand washing, cough etiquette, and dissemination of knowledge among other measures [7,8]. In the context of COVID-19 public health measures are very vital and include staying home when sick; covering the mouth and nose with flexed elbow or tissue when coughing or sneezing. Disposal of used tissue immediately; washing hands often with soap and water; and cleaning frequently touched surfaces and objects. WHO emphasizes the public being well informed, breaking the myths, and following social distancing norms to prevent or slow transmission of the disease.

The degree to which a population complies with corresponding safety measures is surely affected by the people's Knowledge, Attitudes, and Practices (KAP) towards the disease [8,9].

In the management of COVID-19, people's adherence to precautionary measures such as the use of masks, social distancing, cough etiquettes, and hand hygiene practices play an important role. Adoption of these precautionary measures is largely affected by their Knowledge, Attitudes, and Practices (KAPs) toward COVID-19 following KAP theory [10].

Patients attending a tertiary care hospital are suffering from some other health problem and are more likely to be at a higher risk of contracting the virus and also of transmitting it to others. In the presence of the ongoing Covid pandemic, the adherence to safety measures by the patients is an indirect measure of how severe they perceive the risk of COVID-19 to themselves and others. Considering the dynamics of SARS-CoV-2, especially its higher rates of transmission, the COVID-19 outbreak in India could continue to worsen.

An observational study provides the baseline information and better insight to address the knowledge gap, misconceptions, and involved practices for the disease and informs the need for amendment in preventive programs and health awareness plans [11].

Observational studies involve the study of participants without any forced change to their circumstances, that is, without any intervention. Although the participants' behavior may change under observation, observational studies intend to investigate the 'natural' state of risk factors, diseases, or outcomes [12].

Out of concern in this regard, this study was undertaken to observe the safety practices being followed by patients, to study the effect of education on COVID-19 safety behavior, and to suggest mitigating strategies related to COVID-19 among the public of India and health care authorities.

MATERIAL AND METHODS

A cross-sectional study was carried out at the COVID-19 Screening counter of a tertiary care hospital in Navi Mumbai on December 21. Systematic random sampling was done by noting the safety practices of every 5th patient entering the hospital premises. Children were excluded from the study. Four hundred (N=400) study subjects were thus included in our study. A checklist was prepared and validated to grade the COVID-19 safety practices being followed. The checklist included the age, sex, address, education, and details concerning COVID-19safety measures.

A score of 1 point was assigned for each of the following safety measures: wearing a mask, following social distancing, using sanitizer, undergoing thermal screening, and wearing the mask correctly. Thus a total of 5 points were assigned per subject and they were accordingly graded as follows Very good 5 points, Good 4, Average 3, and poor ≤ 2 safety practices.

All data were entered in MS Excel, SPSS Version 20.0 statistical package was used to analyze the data. Descriptive statistics and the Chi-Square test were applied.

RESULT

The mean age of the patients was 40.02 ± 15.51 years. There were (57%) males and 43% females in our study 2.8% of the subjects were illiterate, 18.3% people had primary education, 21% had secondary education, 13.5% had higher secondary education, 39.5% people were graduates, and 5% people were post graduates and above.

The majority of the study subjects (40.88%) wore fabric masks, a quarter of them (25.53%) wore N-95 masks while 24 (22%) were wearing triple-layer surgical masks, 9.37% had some sort of face-covering like handkerchiefs, scarves or sari or dupattas.

Even though 96 % of the study subjects wore masks or face covering it was observed that only 50.52% wore them correctly (Figure 1).

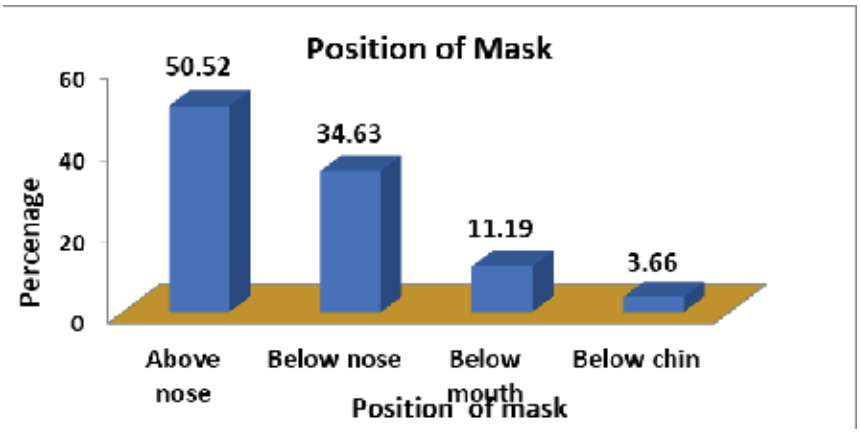

Figure 1 Distribution of study subjects according to the position of mask worn

It was observed that 57.3% of our study subjects did not use the sanitizer kept for their use before entering the hospital. Almost all the patients (98.7%) underwent thermal screening. More than half the study subjects (53%) did not follow social distancing as they waited to enter the hospital premises.

Findings of Grading assigned to the overall practice of Covid safety regulations are as per (Figure 2).

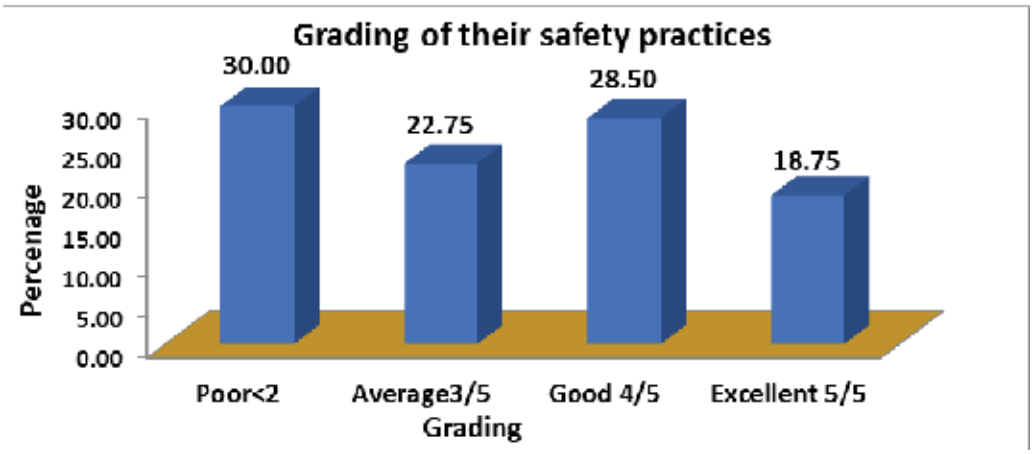

Figure 2 Grading of safety practices of study subjects

Following social distancing norms, correct use of masks and use of sanitizer were also found to be statistically significant as the level of education increased (Table 1 and Table 2).

Table 1 Association of covid-19 safety practices with education

Education	Use of sanitizer			Correct use of mask			Social distancing		
	Yes	No	Total	A	B/C/D	Total	Yes	No	Total
Illiterate	1	10	11	4	6	10	2	9	11
Primary	12	61	73	16	50	66	20	53	73
SSC	35	49	84	35	45	80	42	42	84
HSC	11	43	54	15	37	52	14	40	54
Graduate	95	63	158	105	51	156	94	64	158
Post Graduate and above	17	3	20	18	2	20	12	8	20
Total	171	229	400	193	191	384	184	216	400
Chisquare Test	70.912**			59.956**			36.058**		
p-value	<0.001			<0.001			<0.001		
Significant at 5% level	Yes			Yes			Yes		
**Statistically highly Significant at 0.1% level i.e. P<0.001									

Table 2 Association of education with overall grading of covid-19 safety practices

Education	Excellent 5/5	Good 4/5	Average-3/5	Poor ≤ 2/5	Total
Illiterate	0	2	1	8	11
Primary	1	15	17	40	73
SSC	6	29	26	23	84
HSC	6	9	10	29	54
Graduate	52	52	36	18	158
Post Graduate and above	10	7	1	2	20
TOTAL	75	114	91	120	400
Chisquare Test	115.435**				
p-value	<0.001				
Significant at 5% level	Yes				
**Statistically highly Significant at 0.1% level i.e. p<0.001					

DISCUSSION

In a study carried out in Hyderabad, it was reported that 99% of subjects wore a mask when they went out. Which is similar to our findings of 96% of subjects using a mask. However correct use of masks was observed only in 50.52% of our study subjects which is a matter of concern as it confers upon the public a false sense of security and causes further spread of the disease [13].

A web-based cross-sectional survey carried out across India, reported participants taking precautions such as wearing masks (91.80%), covering both nose and mouth (79.14%), and avoiding hand shaking (83.40%). However, practices like following social distancing in public places (51.76%) and workplace (51.04%), frequent hand washing/sanitizing (63.59%), and washing hands for at least 20 seconds (45.44%) were less commonly observed [14].

Our study findings also show that only 57.3% used the sanitizer provided at the counters and only 53.3% followed social distancing. This behavior pattern probably suggests that Covid safety practices were suboptimal in our subjects as they probably did not perceive themselves as at risk of Covid. There are various Studies suggesting the basic reproduction number (R0) of SARS-CoV-2 is around 2.2 or more up to 6 [13], making the virus propagate at an alarming rate and proving to be very expeditious and erratic [15,16]. Complacency in following covid safety practices,

especially in hospital settings can lead to further spread of infection amongst those who are already vulnerable.

Our study revealed education to be an important factor in COVID-19 safety practices. Various studies have reported similar findings. In a study carried out among the general public in Saudi Arabia, a positive association was found between knowledge and educational background which translates into good and safe practices in controlling the pandemic [17].

Rehana Rahman et al. also reported that highly educated people (high school degree, professionals, PhD.) demonstrated good practice in contrast with other groups ($p<0.001$) from their study amongst the general public in Pakistan [18].

In a KAP survey among the attenders of patients visiting the cardiac/CTVS OPD AIIMS Delhi, it was observed that higher levels of educational qualifications were associated with better knowledge about COVID-19 and that there was a positive correlation of knowledge with practice [19].

A strong correlation between educational level and correct knowledge ($p<0.0001$) was also found in a study among Pregnant Women Attending a Tertiary Care Hospital in Eastern India [20].

CONCLUSION

It was observed that safety practices concerning COVID 19 ranged from "Average" to "Excellent" in 70% of the study subjects. Education was observed to be the major determinant affecting the correct practice of safety practices. There were 30% of study subjects do not follow the safety recommendations is alarming as there can be an exponential rise in cases. Hospital services are constrained in their functioning during the COVID-19 pandemic due to high patient load, shortage of staff, and weak infrastructure contributing to suboptimal patient safety and infection control measures. Furthermore, there is a need for effective planning, communication, and coordination between the hospital authorities and staff working at the entry and exit points to ensure compliance with health regulations.

RECOMMENDATIONS

- Intensified awareness programs on COVID 19, its modes of transmission, prevention, and control need to be carried out so that the public imbibe infection control measures into their daily routines.
- Training of all cadres of HCW, to ensure that patients and visitors to hospitals comply with the regulations and adhere to safety practices.
- Enforcement of fines or penalties for not wearing masks and maintaining social distancing. This will lead to re-enforcing the seriousness of the issue and will imprint in the consciousness of the public, leading to a change in behavior and avoiding repetition of the same in the future.
- More screening counters so that social distancing norms can be followed.

DECLARATIONS

Conflict of Interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

[1] Scientific brief "Modes of Transmission of virus causing COVID-19: implications for IPC precaution recommendations." *World Health Organization,* Vol. 3 2020.

[2] Aiello, Allison E., et al. "Effect of hand hygiene on infectious disease risk in the community setting: a Meta-Analysis." *American Journal of Public Health,* Vol. 98 No. 8, 2008, pp. 1372-81.

[3] Qualls, Noreen, et al. "Community mitigation guidelines to prevent pandemic influenza—United States, 2017." *MMWR Recommendations and Reports,* Vol. 66, No. 1, 2017, pp. 1-34

[4] World Health Organization. "World Health Organization coronavirus disease 2019 (COVID-19) situation report." *Geneva: Switzerland: World Health Organisation,* Vol. 1, No. 9, 2020.

[5] Guidelines. " Ministry of Health And Family Welfare." 2022

[6] Ministry of Home Affairs. "Guidelines for Surveillance Containment and Caution." *Annexure 1 National Directives for Covid 19 Management*, 2021.

[7] World Health Organization. "Infection prevention and control of Epidemic and Pandemic-Prone acute respiratory infections in health care." *World Health Organization*, 2014.

[8] Gomes, Carlos. "Report of the WHO-China joint mission on Coronavirus disease 2019 (COVID-19)." *Brazilian Journal of Implantology and Health Sciences*, Vol. 2, No. 3, 2020.

[9] Bettinghaus, Erwin P. "Health promotion and the knowledge-attitude-behavior continuum." *Preventive medicine,* Vol. 15, No. 5, 1986, pp. 475-91.

[10] Tachfouti, Nabil, et al. "The impact of knowledge and attitudes on adherence to Tuberculosis treatment: a case-control study in a Moroccan region." *Pan African Medical Journal,* Vol. 12, No.1, 2012.

[11] Ponnam, Hima Bindu, et al. "Knowledge, Attitudes, and Practices toward COVID-19 among Indian Residents during the Verge of Lockdown Restrictions: A Quick Online Cross-Sectional Survey." *Journal of Health and Allied Sciences*, No. 11, No. 1, 2021, pp. 21-27.

[12] Sedgwick, Philip. "Observational study designs." *British medical journal,* Vol. 344, 2012.

[13] Chakrawarty, Avinash, et al. "Assessment of preventive practices followed by general public during COVID-19 pandemic-a cross-sectional survey from India." *Cureus*, Vol. 12, No. 10, 2020.

[14] Zhou, Peng, et al. "Discovery of a novel Coronavirus associated with the recent Pneumonia outbreak in Humans and its potential bat origin." *BioRxiv,* 2020.

[15] Riou, Julien, and Christian L. Althaus. "Pattern of early Human-to-Human Transmission of Wuhan 2019 novel Coronavirus (2019-nCoV), December 2019 to January 2020." *Eurosurveillance,* Vol. 25, No. 4, 2020, p. 2000058.

[16] Wu, Joseph T., Kathy Leung, and Gabriel M. Leung. "Nowcasting and forecasting the potential domestic and international spread of the 2019-nCoV outbreak originating in Wuhan, China: a modelling study." *The Lancet, Vol.* 395, No. 10225, 2020, pp. 689-97.

[17] Al-Hanawi, Mohammed K., et al. "Knowledge, attitude and practice toward COVID-19 among the public in the Kingdom of Saudi Arabia: a cross-sectional study." *Frontiers in public health,* Vol. 8, 2020, p. 217.

[18] Rehman, Rehana, et al. "COVID-19 Pandemic Awareness, Attitudes, and Practices among the Pakistani general public." *Frontiers in public health,* 2021, p. 601.

[19] Chowdhary, Devanshi, Ankita Sharma, and L. Gopichandran. "A cross sectional survey to assess the Knowledge, Attitude, practice about COVID-19 among bystanders of patients visiting OPD, AIIMS, New-Delhi, India." *International Journal of Community Medicine and Public Health,* Vol. 8, No. 3, 2021, p. 1319.

[20] Mandal, A., et al. "A Study on Knowledge of COVID-19 and Practice of Preventive Measures Among Healthy Pregnant Women Attending a Tertiary Care Hospital in Eastern India." *International Journal of Health and Clinical Research*, Vol. 4, No. 3, 2021, pp. 164-68.