

SHORT ARTICLE

Protective measures taken up by the College for conducting examinations during COVID-19 pandemic: A Satisfaction survey from students and staff

Aluri Sai Padma¹, Nomula Chandan Babu², Davuluri Rajani³, Gopinathan Sumathi Mini⁴, Isukapati Rachana Kumari⁵

¹Assistant Professor, Department of Biochemistry, Bhavan's Vivekananda College, Sainikpuri, Secunderabad-94, Telangana, India; ²Assistant Professor, Department of Mathematics and Statistics, Bhavan's Vivekananda College, Sainikpuri, Secunderabad-94, Telangana, India; ³Assistant Professor, Department of Biochemistry, Bhavan's Vivekananda College, Sainikpuri, Secunderabad-94, Telangana, India; ⁴Assistant Professor, Department of Department of Mathematics and Statistics, Bhavan's Vivekananda College, Sainikpuri, Secunderabad-94, Telangana, India; ⁵Assistant Professor, Department of Genetics and Biotechnology, Bhavan's Vivekananda College, Sainikpuri, Secunderabad-94, Telangana, India.

Abstract	Introduction	Methodology	Results	Conclusion	References	Citation	Tables / Figures
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Corresponding Author

Dr. A. Sai Padma, Department of Biochemistry, Bhavan's Vivekananda College of Science, Humanities and Commerce, Sainikpuri, Secunderabad
E Mail ID: saipadmabhavans@yahoo.co.in



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Abstract

Background: Conducting examinations by the educational institutions during COVID-19 pandemic is highly challenging to contain spread of infection and instil confidence amongst students and staff. **Objective:** To test the satisfaction levels of students and staff towards the protective measures taken up by college during examinations in the COVID-19 pandemic. **Design:** Research study is target group oriented, online data collection through social media. **Methods and Material:** Online survey was conducted (n=768) using a questionnaire with multiple-choice questions. **Statistical analysis used:** Chi-square test, ANOVA one way classification and t-test for difference of means through python. **Results:** Responses of the survey have indicated that sanitization measures taken were very effective (97.0%), felt safe in the examination rooms (97.0%), were instructed about physical distancing (98.83%), satisfied for protective measures taken at entrance (92.93%), college website was followed to understand sanitization measures taken up (90.49%) **Conclusion:** By ensuring effective implementation of all protective measures, confidence among students and staff can be instilled and relieves stress and anxiety amongst them during COVID-19 pandemic.

Keywords

Protective Measures; Sanitization; Examination Halls; ANOVA; Chi Square Test.

Introduction

Environmental measures need to be taken in workplaces to reduce the risk of transmission of SARS-CoV-2 to individuals through contact with infected subjects, objects, equipment, or

contaminated environmental surfaces. SARS-CoV-2 (COVID-19) can be highly stable in a favorable environment (1). Persistence of COVID-19 virus was found to be with different time periods on various surfaces (2). Like other corona viruses, SARS-CoV-2 is

an enveloped virus with a fragile outer lipid envelope that makes it more susceptible to disinfectants compared to non-enveloped viruses (3). To contain spread of COVID-19 while conducting examinations by the educational institutions, the Government of India, Ministry of Health & Family Welfare released a revised SOP on 10th September, 2020 regarding all preventive measures to be followed during this COVID-19 pandemic time (4). The college under study has followed all the guidelines instructed. Apart from taking all other protective measures at entrance, campus and in examination halls, sanitization in examination halls and other common areas is done with 1% sodium hypochlorite on floor and 5% Dettol (Chloroxylenol as active ingredient) on metal benches, which were shown effective against SARS-CoV-2 in 5 minutes of treatment (2). Total 514 examination halls were sanitized during the conduct of these final semester end examinations for both undergraduate and postgraduate students during months of September and October, 2020 and nearly 1000 final year students have attended these exams.

Aims & Objectives

The main aim of study is to test satisfaction of students and staff towards the protective measures taken including sanitization during the examinations in the COVID-19 pandemic period. To achieve this aim, work was planned through the following objectives:

1. Effectiveness of sanitization measures taken by college in the examination halls.
2. Feeling safe in the examination halls.
3. Physical distancing at the entrance and examination halls.
4. Protective measures at the entrance including checking for mask/ temperature and hand sanitization.

Material & Methods

A satisfaction survey was conducted using a survey monkey questionnaire, which consisted of 10 questions (free version). The questionnaire contained multiple-choice questions with predefined answers offering respondents the possibility to choose and rank among several options or the possibility to grade on “Excellent” to “Very Poor” scale. The data was collected from faculty, non-teaching staff, undergraduate and postgraduate students. Overall 768 independent responses were received from the above said categories. Consent was taken from the respondents to use data for

further research. Complete confidentiality was maintained throughout the collection and analysis of data.

Statistical analysis used: Chi-square test, ANOVA one way classification and t-test for difference of means through python were used for data analysis.

Results

The data collected from all participants was analyzed for various parameters tested and the complete data is presented in the form of number of responses and percentage ([Table 1](#)). Total 97.0% respondents felt that sanitization measures taken up by college were effective and majority of them (97.0%) felt safe in the examination rooms. Nearly 99% responded as they were instructed about physical distancing, and also they were satisfied with the protective measures taken at the entrance (92.93%). Large percentage (90.49%) followed college website to understand sanitization measures taken up. Statistical analysis based on genders and professions ([Table 2](#)) revealed that there is a significant difference between professions on various parameters of protective measures taken up. Teaching and non-teaching faculty members have shown more satisfaction compared to the student community and the reason could be due to lack of keen observation of all parameters implemented by students, compared to staff members. Female participants are more satisfied with the effectiveness of sanitization measures taken up compared to male participants, implies their thorough observation. Irrespective of gender and professions, all the participants have responded as they were instructed about physical distancing at entrance and in examination halls and this is one of the important protective measures to limit the spread of infection among the staff and students. Visiting college website by 90.49% shows their attentiveness to understand the safety measures taken, to attend examinations comfortably and this channel of information flow would definitely build trust and confidence amongst them.

Discussion

This is the first study from India assessing the implementation status of protective measures for conducting examinations during COVID-19. A Joint Task Force of eminent public health experts of India was constituted by Indian Public Health Association (IPHA) and Indian Association of Preventive and Social Medicine (IPHA) to help the Government of

India for containment of COVID-19 pandemic in the country. The action plan for control of pandemic included source containment through increase of public awareness and practice of preventive measures by ensuring physical distancing with social bonding, avoid social stigma and ensure universal mask usage (5,6). So, it is necessary for every individual and organizations to follow the guidelines laid by the government and contain the spread of COVID-19 infection. The other guidelines which were suggested at workplace in general can be taken into consideration (7).

Conclusion

Satisfactory survey from students and staff has shown high satisfaction towards all protective measures taken up by the college during examinations.

Recommendation

All educational institutions should follow strict sanitization and other protective measures for conduct of examinations during COVID-19 pandemic time and instil safety and confidence amongst staff and students.

Limitation of the study

The study was conducted amongst first phase of examinations for final year students and further studies during the other phases of examinations gives more generalized opinion on safety levels during the pandemic time.

Relevance of the study

To contain spread of COVID-19 infection, Ministry of Health and Family Welfare, Government of India has issued guidelines to all educational institutions which may not be adhered to strictly. This study looked into important parameters related to individual safety and containment of infection while conducting the examinations by the educational institute.

Authors Contribution

All authors have contributed equally.

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References

1. van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN, Tamin A, Harcourt JL, Thornburg NJ, Gerber SI, Lloyd-Smith JO, de Wit E, Munster VJ. Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS- CoV-1. N Engl J Med. 2020;16;382(16):1564-1567. doi: 10.1056/NEJMc2004973. Epub 2020 Mar 17. PMID: 32182409; PMCID: PMC7121658. [PubMed].
2. Chin AWH, Chu JTS, Perera MRA, Hui KPY, Yen HL, Chan MCW, Peiris M, Poon LLM. Stability of SARS-CoV-2 in different environmental conditions. Lancet Microbe. 2020;1(1):e10. doi: 10.1016/S2666-5247(20)30003-3. Epub 2020 Apr 2. PMID: 32835322; PMCID: PMC7214863. [PubMed]
3. Rutala WA, Weber DJ. Best practices for disinfection of noncritical environmental surfaces and equipment in health care facilities: A bundle approach. Am J Infect Control. 2019;47S:A96-A105. doi: 10.1016/j.ajic.2019.01.014. PMID: 31146858. [PubMed].
4. Revised SOP on preventive measures to be followed while conducting examinations to contain spread of COVID-19, [https://www.mohfw.gov.in/pdf/RevisedSOPonpreventive measures to be followed while conducting examinations to contain spread of COVID19.pdf](https://www.mohfw.gov.in/pdf/RevisedSOPonpreventive%20measures%20to%20be%20followed%20while%20conducting%20examinations%20to%20contain%20spread%20of%20COVID19.pdf)
5. Rai SK, Zodpey S, Ghosh S, Kadri A. Joint statement on COVID-19 pandemic in India: Review of current strategy and the way forward." Indian journal of Community Health. 2020;32(2):170-174. <https://doi.org/10.47203/IJCH.2020.v32i02SUPP.001>
6. Second-Joint-Statement-of-IPHA-IAPSM-and-IAE-on-COVID-19-containment-plan-May-25-2020_Shorter-version-final. https://www.iphaonline.org/wp-content/uploads/2020/05/Second-Joint-Statement-of-IPHA-IAPSM-and-IAE-on-COVID-19-containment-plan-May-25-2020_Shorter-version-final.pdf
7. Cirrincione Luigi, et al., COVID-19 pandemic: Prevention and protection measures to be adopted at the workplace. Sustainability; 2020,12(9):3603. <https://www.mdpi.com/2071-1050/12/9/3603#>

Tables

TABLE 1 NUMBER AND PERCENTAGE INDICATION OF RESPONSES TO VARIOUS QUESTIONS IN THE QUESTIONNAIRE, PERTAINING TO SANITIZATION AND OTHER PROTECTIVE MEASURES TAKEN BY THE COLLEGE

S. No.	Sanitization measures	Answer choice	No. of responses	% of responses
1	How effective did you find the sanitization measures taken by the college in the examination halls?	Excellent	293	38.15%
		Very good	285	37.11%
		Good	171	22.27%
		Poor	14	1.82%

2	How safe did you feel in examination hall?	Very poor	5	0.65%
		Extremely safe	247	32.16%
		Very safe	359	46.74%
		Somewhat safe	139	18.10%
		Not so safe	17	2.21%
3	Were you instructed to follow the required physical distancing from the entrance and in the examination hall?	Not at all safe	6	0.78%
		Yes	759	98.83%
4	How were the protective measures taken at the entrance including mask/temperature/hand sanitization?	No	9	1.17%
		Very satisfied	347	45.16%
		Satisfied	367	47.77%
		Neither satisfied nor dissatisfied	40	5.24%
		Dissatisfied	8	1.05%
5	Did you follow the college website to understand the sanitization measures taken up by the college?	Very dissatisfied	6	0.79%
		Yes	695	90.49%
		No	73	9.51%

TABLE 2 ASSOCIATION BETWEEN GENDER, PROFESSION AND VARIOUS PROTECTIVE MEASURES TAKEN UP BY COLLEGE

S. No.	Testing parameter	Statistical method used	p-Value	Inference
1	Difference of opinion between genders on effectiveness of sanitization measures taken up by college.	chi-square test for independents of attributes.	0.0115	There is an association
2	Difference of opinion between professions on effectiveness of sanitization measures taken up.	ANOVA one- way classification	0.0186	There is a significant difference.
3	Difference of opinion between genders in feeling safe in the examination halls.	t- test for difference of means	0.5045	No significant difference.
4	Difference of opinion between professions in feeling safe in the examination halls.	ANOVA one-way classification.	0.0302	There is a significant difference.
5	Difference of opinion between genders in feeling satisfied for protective measures taken at the entrance.	t- test for difference of means	0.5883	No significant difference.
6	Difference of opinion between professions in feeling satisfied for protective measures taken at the entrance.	ANOVA one-way classification.	0.0186	There is a significant difference