Health Education Workshops with AFIU Staff in the Context of COVID-19 Pandemic

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Cite this Article: Rana, S., Munir, A.A., Zafar, R., Wahid, F., Rizvi, S.E.H., Mirza, Z.I. Health Education Workshops with AFIU Staff in the Context of COVID-19 Pandemic. Journal of Rawalpindi Medical College. 30 Jun. 2022; 26(2): 337-340
DOI: https://doi.org/10.37939/jrmc.v26i2.1857

Abstract

Objective: Describe the experience of educational activities in the prevention of COVID 19 with a staff of the armed forces institute of urology (AFIU).

Materials & Methods: Experience report of lectures and hands-on approach on the education of COVID 19 SARS virus for better prevention and management of COVID 19 pandemic.

Results: It was carried out as two hand sanitizing, donning, and doffing workshops preceded by lectures on the prevention of COVID 19 with 323 participants attending from AFIU.

Conclusions: The hybrid approach of lectures with hands-on training was effective in building up and refreshing the knowledge of staff in the wake of the COVID pandemic.

Keywords: AFIU, COVID-19, health education, workshop.
Introduction

COVID-19 virus emerged in Wuhan province of China in late 2019 and soon swept over the world. On March 11, 2020, World Health Organization decreed that the world faced a pandemic caused by COVID-19. It was the first time defined in December 2020 in China. COVID-19 is an infectious disease caused by coronavirus of severe acute respiratory syndrome 2 (SARS-CoV-2). It is currently present in 223 countries and regions. With the exponential growth of the virus, it registered 223,452,593 cases and 4,610,523 deaths worldwide until 9 September 2021. In Pakistan, there are 11,94,198 cases and 26,497 deaths in all age groups.1

According to an article published in the international journal of infectious disease, Dr. Tedros Adhanom Ghebreyesus announced in the WHO health worker safety charter on September 17, 2020 “thousands of health care workers infected with COVID-19 have lost their lives worldwide”.2 According to national health services coordination and regulation NHSR&C Pakistan, data obtained till August 15, 2020, showed that 5367 HCWs were infected and 70 died which included 42 medical doctors, 15 nurses, and 13 other non-medical staff.3

As no definitive treatment and fully effective vaccination are available to date, disease awareness and prevention cannot be overemphasized. It has higher transmission rates than any other SARS viruses with relatively less pathogenicity hence the cycle of transmission can only be slowed down with effective involvement of the community as well as health care professionals.

Objective: To report the experience of teachers and healthcare professionals in conducting COVID-19 lectures and hands-on workshops in order to prevent and effectively manage COVID-19 in a healthcare setting in AFIU.

Methodological Procedures

An Experience report of two workshops on hands-on training with 323 participants from January to May 2021 was conducted. These workshops combined with lectures were chosen to build on prior knowledge and practices of health care workers as a methodical and strategic resource for communication. This workshop was conducted in accordance with public health issues relevant to the population after proper approval from the health administration. Its necessity was felt at a higher level to educate the complete staff of the hospital, from doctors to sanitary workers, to be able to prevent the spread in a health care facility.

Functionality of the Workshops

In AFIU we conducted two courses with workshops for COVID-19 prevention and management.

1st Workshop
The first course was conducted by Dr. Sumbal Rana Assistant Professor of Anaesthesia for all the staff of the hospital from January to February 2021. It was conducted in 4 stages

Stage 1: Establishing an agreement with the health administration
Agreement regarding healthcare workers’ attendance and participation was taken in advance of the course. The conference room was selected as the site for lectures and hands-on workshops. Though e-learning modules have been adapted worldwide for education during a pandemic, face to face approach was a necessity for first-line healthcare workers.4 According to Sohrabiet al, clinical skill teaching is best transmitted via a hands-on approach.5 Learning materials were acquired and placed as per the anticipated acumen and knowledge of the participants and demonstrations were readied and practiced in full dress rehearsal.

Stage 2: Creation of groups and identification of group knowledge
There were 247 total participants which included 15 officers (specialists, trainee doctors), 19 trainees of the second speciality, urology and nephrology, 26 nurses, 11 clerks, 31 nursing assistants, 26 individuals from the technician's group, 23 general duty staff, 10 transport staff, 6 cooks and 2 reception staff members consisting of personal assistants, computer operators, clerks of all cadres, medical record keepers, storemen, telephone operators, vehicle mechanic, lift operators, aya, gardeners, sanitary workers, chowkidars and naib qasid. The attendants were divided into separate small groups randomly. All the SOPs regarding COVID prevention (in language and medium easily understood by staff) were distributed in advance to the participants to get conversant using the andragogic learning model.6,7 Prior knowledge was assessed by MCQ based exam of all the participants.
Stage 3: Lectures and knowledge transmission
The course consisted of clinical presentations regarding the COVID-19 virus, its clinical presentation, mode of spread, its complications, usage of PPE, the burden on health resources, and its effective prevention. Participants were actively engaged during lectures and were facilitated in queries.

Stage 4: Hand sanitization, donning, and doffing technique
There were stations for hand sanitization, donning & doffing with practical demonstration and hands-on practice.

Hand sanitization: Using gouache ink, soap, sink, towels, and alcohol 70% hand was presented a hand washing technique. Taking ink as a virus, it was demonstrated in five steps, how to remove the virus from hands completely. Lastly, alcohol 70% was used as a protection resource after the cleaning as it may be used when soap and water are unavailable. All the participants were encouraged to go through the process at least once using the technique.

Donning: Donning was demonstrated by following these simple steps:

i. Perform hand hygiene
ii. Put on shoe covers (if applicable)
iii. Put on gown
iv. Put on mask/respirator (if applicable)
v. Put on eye protection (if applicable)
vi. Put on gloves

Doffing: Doffing was demonstrated by following these steps:

i. Remove shoe covers (if applicable)
ii. Remove gown and gloves together
iii. Perform hand hygiene
iv. Remove eye protection (if applicable)
v. Remove mask/respirator (if applicable)
vi. Perform hand hygiene

If gloves are removed first, hands must only touch uncontaminated surfaces of the gown, typically the back side of the neck and shoulders. The gown is then peeled off down the body and arms, rolling in the contaminated surfaces (front and sleeves). The gown and gloves are then disposed of in a specified area together.

Stage 5: Knowledge Reinforcement
In the last stage, demonstrators reinforced the importance of spreading awareness regarding COVID prevention and management among their families and peer groups.

2nd Workshop
The second course was conducted after multiple refresher courses had been completed and the staff was well versed with COVID 19 SOPs. This course ran from 22nd April till 6th May 2021. It was a more comprehensive course branded as COVID Critical Care Management 2021. It was also conducted in 4 stages as described above. Dr. Yasrab anaesthesia consultant was the course in charge along with Dr. Sumbal Rana. There were 76 attendants which included 23 doctors, 23 nurses, and 30 paramedics. Among doctors were urologists, nephrologists, anaesthetists, subspecialty trainees, and general duty doctors. The course was conducted in two batches. Batch 1 consisted of all doctors (specialized, trainees, and medical officers) and all nurses. Batch 2 comprised all nursing assistants and OT technicians.

Batch A
A pre-test was conducted comprising 10 MCQs to assess the baseline knowledge of all participants. Then 02 interactive sessions of 02 hours each were conducted in which COVID-19 symptoms, classification, and diagnosis. Ventilation strategies and intensive care were mainly focused and the hands-on training was performed for airway management, intubation, and ventilation. Then a post-test was conducted at the conclusion of the training.

Batch B
Comprised of anaesthesia technicians, critical care staff, and Paramedics. The focus of their training was on hand hygiene, preparation of equipment for ICU procedures, and monitoring. A formal viva and practical session were conducted for them. For those whose performance wasn’t satisfactory, a remedial was performed.

T course focused on the classification of COVID patients on basis of symptoms, and clinical management of patients in ICU with a special focus on mechanical ventilation of COVID patients. Ventilator basics and troubleshooting, ARDS ventilation protocols and management, prone positioning, fluid management, feeding, renal replacement therapy, and novel therapies were discussed.

A pre-test was taken before the beginning of the course to assess the baseline knowledge of the attendants. At the end of the course, it was repeated along with new MCQs according to the clinical acumen of doctors, nurses, and paramedics separately. All the participants qualified for their respective tests. Both the courses ensured optimal practices and sound knowledge among workers in AFIU.
|                          | Pre-test Score | Post-test Score |
|--------------------------|----------------|-----------------|
| Doctors (N=23)           | Mean ± SD      | Mean ± SD       |
|                          | 3.39 ± 1.16    | 7.521 ± 1.16    |
| Nurses (N=23)            | 3.01 ± 1.01    | 7.43 ± 1.87     |

**Final Considerations**

Health education by conducting a combined approach of lectures and workshops was a low-cost strategy which implications can have significant health impacts on the prevention of COVID-19. Healthcare professionals have a responsibility toward society for being better educated and practicing healthy activities and their refresher courses and workshops provide a stimulus in overburdened work scenarios. Therefore, identification and education of critical staff can expand the strategic effectiveness of public health in facing epidemics.

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