An effectiveness of training program on COVID-19 among healthcare students: A cross section study

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ABSTRACT

The pandemic COVID-19 is a highly infected disease caused by a novel coronavirus or SARS-Cov-2. The virus was reported for the first time December 2019 in, China’s Wuhan province. Later the virus has broken down into the world and claimed millions of lives. In India, the disease was reported for the first time in Kerala on 30th January 2020. a cross-section one group pre-test & post-test research design was used among the 40 final year BSc nursing students, College of Nursing SGPGIMS, Lucknow India. Samples were selected based on purposive sampling technique and sample criteria. An instrument, the first tool included demographic characteristics Similarly, second instrument used for knowledge assessment. After pre-test assessment, a teaching session was held at the seminar room, college of nursing SGPGIMS Lucknow, India. Subsequently post assessment was held after intervention. A total of 40 participants responded to the study. Demographic variables like 30(75%) participants had less than 22 years of age, 22(55%) were girls, 14(35%) families income found INR 10000-15000, and the majority of participants obtained COVID-19 related knowledge from newspaper 16(40%). A gender was found significant with pretest knowledge, and other variables weren’t found significant (P=0.05). Knowledge mean & standard deviation in pre & post-intervention, 11.90±2.16 vs 15.82±1.39. The mean difference was found in a pre-test & post-test-1 & post-test-2, 3.9, 5.02, & 1.1, respectively. The effectiveness of the training program was checked by paired t-test -10.20 & -13.93, P=0.00. The study revealed that the teaching session was efficient in the COVID-19 program among BSc nursing students.

INTRODUCTION

Coronavirus disease (COVID-19) is a highly infectious disease caused by a newly discovered coronavirus. It was reported for the first time in Wuhan, China, on 31st December 2019 (WHO, 2020). The virus was derived from the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). Most of the people affected by the COVID-19 suffered from mild to moderate illness, and the majority of patients recovered without requiring special treatment.

Older people and those with associated medical problems like cardiovascular disease, dialysis patients, diabetes, COPD, cancer, Immune-suppressed patients are more likely to be develop-
oped a severe illness of Covid-19 pandemic. COVID-19 spreads through infected droplets of saliva and discharge from the nasal cavity when the person coughs, sneezes, and talks loudly. Henceforth WHO had declared coronavirus disease 2019 (COVID-19) a global pandemic on 11th March 2020 (Sharma and T, 2020). The best way to prevent COVID-19 is to make awareness to the public regarding disease transmission, the severity of the disease, and its prevention (Emami, 2020).

Globally, there have been 20,162,474 confirmed cases of COVID-19, with 737,417 deaths were reported by WHO till 12th August 2020. The global burden has been increasing day by day by adding new cases. The first case of COVID-19 in India was reported 185 days ago on 1/30/2020. Since then, the country has reported 24,00,231 cases, and 46,968 deaths till today’s date 1.

Nurses are at the forefront and are managing patient screenings, placement as well as the care of patients in the COVID zone. Nurses are working round the clock, dragging themselves to the limit and putting their lives on the risk. Though the nature of the disease is frightening to everyone, nurses are taking responsibility and accountability in providing care and reassurance to patients and their families (Healthcare, 2020).

The entire nursing community at risk zone and unprecedented levels of overwork, mainly those are working in intensive care units and directly involved in response to the COVID-19 pandemic without adequate rest and recovery, without support and assistance, with limited considerations for their mental health and wellbeing. However, these responsibilities, accountability, and challenges are so willingly and happily accepted by nurses (News, 2020).

With this aim, the researcher has decided to enhance the knowledge of final year students as they become a prospective nurse. And may have the opportunities to serve their duties among COVID-19 patients in this pandemic crises. The proper technique of donning and doffing plays a vital role in the barrier of such transmission among health care workers.

MATERIALS AND METHODS

This Quasi-experimental study was conducted among BSc nursing students. The purpose of the study was to assess the effectiveness of one-day training on COVID-19 final year nursing students at the college of nursing in SGPGIMS, Lucknow, India. Samples were selected among 40 participants by purposive sampling technique, who, fulfilled sample criteria.

Before the data collection investigator took permission, from the competent authority of the college of nursing and explained the study purpose, data anonymity, and confidentiality. The researcher clarified their doubts, then asked written consent and handovered participant information sheet to study the subject.

Instrument and procedure

Research instruments validated by experts from various fields. The reliability of the tool has checked among the 10 per cent of the study population (r=0.8). On the day of pre-test investigator firm with COVID-19 protocol; hand hygiene, mask, and social distancing. Each question contributes to multiple options with one correct answer, for each right answer awarded one mark. The instrument consists of two parts: part-A contributes the socio-demographic data (age, gender, family income, and source of knowledge). Part B involved knowledge questions (mask, gloves, hand hygiene & PPE).

Meanwhile, a teaching session was held by our expert faculties at seminar hall, college of nursing SGPGIMS. The duration of intervention was 6 hours, which included the discussion part after each session. The program was very attractive were resource persons utilized sophisticated teaching and learning methods. Subsequently, a post-test was conducted to know the effectiveness of the intervention.

RESULTS AND DISCUSSION

The results were computed using both descriptive and inferential statistics based on the objectives of the study.

Table 1 Summarizes demographic variables. The majority of participants age was less than 22 years [30 (75%)], most of the participants were female [22 (55%), had moderate family income, and a majority of participants had good from a newspaper [16(40%)].

There were no significant differences in age, family income and source of knowledge, but gender was found a significant difference (P-value- 0.05).

Table 2 In the present study, there was significant increase knowledge score of students in post-test,
Table 1: To determine the association between knowledge frequency, percentages and chi-square values with their socio demographic variables n=40.

| Demographic variables | f  | %  | df | Chi-square | P-Value |
|-----------------------|----|----|----|------------|---------|
| Age in years          |    |    |    |            |         |
| Less than 22          | 30 | 75 | 2  | 1.28       | 0.52    |
| 22-26                 | 10 | 25 |    |            |         |
| Gender                |    |    |    |            |         |
| Male                  | 18 | 45 | 2  | 6.50       | 0.03    |
| Female                | 22 | 55 |    |            |         |
| Family Income per month|   |    |    |            |         |
| Less than 10000       | 12 | 30 | 6  | 14.17      | 0.13    |
| 10001-15000           | 14 | 35 |    |            |         |
| 15001-20000           | 10 | 25 |    |            |         |
| More than 20000       | 4  | 10 |    |            |         |
| Source of Knowledge   |    |    |    |            |         |
| Newspaper             | 16 | 40 | 6  | 3.43       | 0.75    |
| Internet              | 8  | 20 |    |            |         |
| TV                    | 9  | 22.5|   |            |         |
| Friend and others     | 7  | 17.5|  |            |         |

11.90±2.16 vs 15.82±1.39,P=0.001 and at after a week of posttest-1 16.92±1.24. The mean difference in pre-test, post-test1 & post-test-2 3.9, 5.02 and 1.1, respectively. Effectiveness of training program checked by paired t-test -10.20 & -13.93, P=0.00.

Before and after teaching intervention the knowledge scores as follows, poor [11 (27.5%)] average [28(70%)] & Good 1 (2.5%) vs average [17(42.5%)] & Good 23 (57.5%) Figure 1, 1.75±0.49 vs.2.57±0.50, respectively. The paired t-test was -10.25 at p=.00. Hence teaching session was effective among final year BSc nursing students. However, several countries developed COVID-19 protocol and few of them also following a WHO COVID-19 guideline. Likewise, India also developed COVID-19 guidelines, which involved manufacturing medical equipment such as ventilators, masks, PPE kits. Besides this development, the government has to strengthen frontline health workers by deploying the final year nursing student for COVID-19 patient nursing care (Olum, 2020).

The present study intended to explain the effectiveness of the COVID-19 training session among BSc final year nursing students. In this study, the participants had been determined the accountability for nursing care in a pandemic situation and the majority of participants taken positively of this pandemic situation Conversely, our study supported continuing professional education emphasized the knowledge and practice skills of health care workers (Kamineni, 2020).

Besides this, the careful conceptualization of the tainting program may improve the frontline health worker’s emotions and also strengthen their ability. The COVID training should be given irrespective of gender, education, and experience (Zhang, 2020). Many studies supported finding that health workers have good knowledge of COVID-19 (89%,93%), and most of them have a lack of emotional confidence. Hence fore continue education and counselling may improve their mental health (Maleki, 2020; Shrivastava et al., 2018).

The present study revealed the pre-test knowledge was not sufficient for patient care; therefore, the regular training program may be improved health care workers’ knowledge on COVID-19. Our study also found that the teaching session was benefi-
Table 2: Mean, standard deviation, mean difference and paired t-test n=40.

| Knowledge test       | Mean ± Standard deviation (SD) | Mean difference | Paired t-test | p-value |
|----------------------|--------------------------------|-----------------|---------------|---------|
|                      | Pretest vs post-test-1          |                 | -10.20 & -13.93 | 0.00    |
|                      | Pretest vs post-test-2          |                 |               |         |
|                      | Pre-test-1 vs Post-test-2       |                 |               |         |
|                      | Pre and post-test vs Pre & post-test-2 |               |               |         |

Pretest 11.90±2.16 3.92 5.02 1.1
Post-test-1 15.82±1.39
Posttest-2 16.92±1.24

CONCLUSIONS

The study concludes that the COVID-19 training program was quite effective and which is evident in other health settings. Organizing like this program may help to the holistic development of healthcare workers. But before the conceptualization of the program, the organizer must understand that, with whom you are organizing teaching sessions like for fourth class workers, nurses, lab technicians, and doctors. Likewise, events may emphasize the emotional awareness of health workers, and which may boost their confidence. It is also recommended that often conducting such training sessions may contribute to the practical approach and concrete task force to prevent the transmission of this virus.

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Conflict of Interest

The authors declare that they have no conflict of interest.

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