

Research Article

Preparedness Among Senior JKUAT Nursing Students in Managing COVID-19 Patients

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Abstract

The negative effects and the impact of pandemic diseases continues to grow enormously. The study aimed to find out the preparedness among senior JKUAT nursing students in managing COVID-19 patients. The purpose of the study was to determine knowledge, attitude and risk perception among senior nursing students at JKUAT in the management of COVID-19 patients. The study used a cross-sectional study design and sampling technique was used to collect data among number of students using online questionnaires. Data analysis was done using the statistical package for the social sciences version 20 and presented using frequency tables, pie charts, numerical and narratives as appropriate. Out of the total participants, 74.6% of the students were willing to volunteer in a pandemic management center and 98.6% had the knowledge on how infectious diseases are transmitted, frequent ways of transmission and prevention/minimizing the spread of infection. Nursing students are valuable resources in the health sectors and are highly willing to volunteer during the COVID-19 pandemic and are prepared to manage the affected patients. The study recommends that emergency preparedness should be integrated into the nursing curricula and other health science programs and also recommends the ministry of health to provide incentives to the volunteers as well as insurance cover in case one is infected in the line of duty.

Keywords

Infectious Diseases, Volunteering, COVID-19, Protective Personal Equipment, Risk Perception, Corona Virus

1. Introduction

COVID-19 has been considered a respiratory illness that has received internal attention and has been categorized as highly life-threatening disease. The first case of COVID-19 was diagnosed in Wuhan city, China in late December 2019. The world health organization announced the disease as pandemic in February 2020. Since the outbreak of the disease, different governments around the world have been implementing measures to contain and prevent the transmission of the disease [1]. Infectious diseases can be caused by an infection transmitted through person-to-person contact, animal

to person contact or from the environment or other media. Others occur due to exposure to chemicals or to radioactive materials for example the Minamata disease caused by exposure to Mercury. Occasionally the cause of an outbreak is unknown even after thorough investigation [2]. Epidemics create a greater demand on numerous essential services and a reduced capacity to meet that demand. There is a surge capacity in the health care systems and among various institutions to deal with a reduction in manpower; the recruitment of volunteers is an essential means which deserves attention in

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pre-pandemic phase [3]. Universities have huge potential as a source of skilled volunteers during such public health crisis. Health sciences faculties for example could provide skilled personnel to help combat the pandemics. However, their attitudes towards volunteering can influence their willingness to volunteer [4]. This study hence deals with finding out the level of knowledge, attitudes and the risk perception among the nursing students towards an outbreak of COVID-19 and management of the already affected patients. Volunteering in times of this outbreaks has emerged and developed over time in the period of such crisis. However, the needs that come with the outbreaks exceed the capacity of the government agencies and professional rescue bodies.

2. Materials and Methods

The Materials and Methods section should provide comprehensive details to enable other researchers to replicate the study and further expand upon the published results. If you have multiple methods, consider using subsections with appropriate headings to enhance clarity and organization.

2.1. Study Design

The study used a descriptive, cross sectional study design with quantitative data. Cross sectional study design has been preferred because it's quick, saving time, cheap to conduct and easier to use.

2.2. Study Area

The research was carried out in JKUAT School of Nursing. JKUAT is in Juja, approximately 50 kilometers from Nairobi CBD and approximately 3 kilometers from the Juja turn off at the Thika superhighway. JKUAT comprises of five colleges with the school of nursing in the college of health sciences. The research was conducted among senior Nursing students in their 3rd and 4th year of study.

2.3. Study Population

The targeted population for the research was Nursing students in JKUAT who were in their third year and fourth year of their academic years as approved by the school of nursing.

2.4. Sample Size Calculation

The sample size was determined by use of this formula:

$$n = \frac{z^2 pq}{d^2}$$

The sample size included 80 students.

2.5. Inclusion and Exclusion Criteria

2.5.1. Inclusion Criteria

JKUAT nursing students in third and fourth year who had attended clinical placement and were willing to participate in the study.

2.5.2. Exclusion Criteria

Students who were on academic leave.

2.6. Sampling Methods

Stratified sampling method was used to select the students who will participate in the study. The participants were divided into two strata where the first stratum was the 3rd year nursing students and the other was 4th year nursing students with no gender bias. From each of the group then the participants were selected using simple random sampling where everyone was fit to participant in the study.

2.7. Data Collection Method

The researcher used an online questionnaire with both open ended and close ended questions. The questionnaire included items relating to demographic information, self-reported current health status, risk perception and general knowledge of any pandemic as well as the perceived motivation factors.

2.8. Pre-Testing

Pre-testing of the questionnaire was done in Kenyatta University among Nursing students. The sample size of the students that were used included 8 nursing students. This helped note and know any rectifications to be done to the questionnaire and any modifications also to be done to fit my study well and also for more accurate findings.

2.9. Data Analysis

Analysis of data was done using statistical package for social sciences version 25.0. Descriptive statistics were used to describe sociodemographic characteristics of the samples and the response to the questionnaire items. Findings of the research were presented using percentages and narratives.

2.10. Ethical Considerations

The study was carried out with the approval from the JKUAT ethical research committee. Upon explaining the nature of the study, the participants voluntarily participated by filling questionnaires which were anonymous. The participants were assured that the information they give shall remain confidential and used only for the purpose of the study. An informed consent document was included in the first page of the online questionnaire. Completion and return of the ques-

tionnaire to the researcher was perceived as a consent to participate in the study. There was a chance to seek clarification from the respondents. Completed questionnaires were stored safely and accessible to the primary investigator.

3. Results

3.1. Bio Demographic Characteristics

Among the 71 students who participated in the study, there were more males 51 (71.8%) than females, 20 (28.2%). The majority of the participants ranged between 20 and 25 years of age representing 61 (94.4%). There were more fourth years 47 (66.2%) than the third years 24 (33.8%). Majority of the participants were single 69 (97.2%).

3.2. Level of Knowledge Regarding Management of COVID-19 Among Senior Nursing Students

3.2.1. Knowledge of Infectious Disease Transmission

Participants were asked whether they know how the infectious diseases in a pandemic are transmitted and 70 (98.6%) participants answered yes.

3.2.2. Ways of Transmission of Infectious Diseases During a Pandemic Investigation

The study had also inquired on the various ways of infectious disease spread using a multiple response question and had the various choices for the participant to tick the most frequent ways of infectious disease transmission. Two thirds of the participants ticked air droplets (94.4%), 54 (76.1%) participants ticked body fluids, 45 (63.4%) participants ticked contaminated fluids, 5 (7%) participants ticked food and drinking water, 5 (7%) participants ticked animal to person contact and 3 (4.2%) participants ticked insect bites.

3.3. Risk Perception Among Senior Nursing Students in JKUAT Towards COVID-19 Pandemic

3.3.1. Resumption of University Activities

The participants had varying view points on the risk perception towards COVID-19 pandemic. Among the 71 participants, when asked on whether the university should remain open in pandemic events, 66 (93 %) participants said that it should remain open but only carry out the necessary operations and avoid physical classes, 3 (4.2 %) participants said that the university should remain closed fully and 2 (2.8 %) said that the university should remain fully open with all sectors operating normally.

3.3.2. Willingness to Attend Clinical Placements and Volunteer in Pandemic Management Centers in Event of a Pandemic

When asked if they would attend clinical placements in the event of a pandemic willingly, 61 (85.9 %) said yes and 10 (14.1 %) said no. The participants were asked whether they would volunteer in a pandemic management center and among the 71 participants, 53 (74.6 %) said they would volunteer, 9 (12.7 %) said they would not volunteer at all, and the other 9 (12.7%) were not sure whether they would volunteer or not.

3.4. Perceived Motivating Factors to Volunteer

The research enquired on various factors that would affect the participants' willingness to volunteer. Majority of the participants 61 (85.9%) said that they would participate if their health status was good and they were able to participate, 66 (93 %) participants said they would volunteer if there was provision of the PPEs, 42 (59.2 %) participants said they would volunteer if offered compensation, 18 (25.4 %) would participate to gain recognition by the community, 12 (16.9 %) said they would volunteer for altruistic concerns, 10 (14.1 %) participants would volunteer for their patriotism and 8 (11.3 %) participants would volunteer with the permission from the family.

4. Discussion

According to this study, 98.6% participants were well aware of how the infectious diseases (for this case COVID-19) are spread and majority of the participants were able to identify the major ways of transmission of infectious diseases which included; air droplets 94.4%, body fluids 76.1%, and contaminated fluids 63.4% [10]. These results seemed to vary compared to a study done by [8] on student nurses' perceptions, knowledge and preventive behaviors toward COVID-19 which was conducted among various universities which stated that the student nurses had moderate level of knowledge, attitude and practice respectively [8].

Amongst the participants, 85.9% were willingly ready to attend and would go for clinical placements amidst a pandemic outbreak period and 74.6% were willing to volunteer in a pandemic management center to help manage the infected patients with right conditions at place. The findings were similar to a study done among nursing students in the United States by [7]. However, a higher percentage of willingness was achieved in the study (86.5%) [13]. These results were similar to studies conducted on medical students from China, and Peru where the overall willingness to volunteer during a pandemic was 63% and 77% respectively [5, 6].

According to the study findings, multiple factors were significant in promoting willingness to volunteer and preparedness to manage the COVID-19 patients. These factors were grouped into family and personal reasons and altruism [9]. From the study, there were various factors promoting the

willingness of the nursing students to volunteer and manage COVID-19 patients including; a good health status and being able to participate at the time of need with no other personal/family related limits 93%, provision of PPEs in the working area 59.2%, and if there was compensation for their services 25.4% [11]. A few would volunteer for community recognition, altruistic concerns, and patriotism (25.4%; 16.9%; 14.1%) [14]. A study by [7] also found out that other than provision of vaccines, providing the volunteering students with PPEs also increased the willingness of nursing students to volunteer as it reduces risk of contracting the disease [12].

5. Conclusion

In conclusion, student nurses in JKUAT were willing to volunteer in the event of pandemic and they were well prepared to manage the COVID-19 patients as well as work in various pandemic centers. There was a moral/professional obligation towards helping the sick which facilitated the willingness to volunteer and a high level of knowledge on preventive measures towards infection.

The nursing students demonstrated good knowledge on the various management practices and hence were prepared to manage COVID-19 patients as demonstrated from the findings. They were also aware of the various modes of transmission of these infectious diseases and the various ways to ensure prevention of their transmission which increased their ability to be able to manage patients in various pandemic centers.

A few factors were found to motivate the willingness of nursing students to volunteer during the COVID-19 pandemic including personal safety, family factors, and knowledge as well as provision of PPEs, safe working environment, incentives and insurance covers among others [15].

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Author Contributions

Gift Mwenda is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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