

Healthcare Workers Experiences and Challenges during Sample Collection for COVID 19 in the Selected Institutionalized Quarantine Centers, Kathmandu

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ABSTRACT

Background: The frontline healthcare workers are progressively being involved in the COVID-19 crisis. Their role has been significant and made a crucial contribution, but they face many challenges along. The experiences and challenges of the frontline healthcare workers during sample collection remain unexplored. So, the researcher felt necessary to realize insights into the lived experiences of healthcare workers. The target of the study is to explain the fieldwork of the sample collection within the institutionalized quarantine of COVID-19 and explore the most important challenges and issues during sample collection.

Methods: A qualitative case study methodology was adopted to describe swab collection events in the institutionalized quarantine of Kathmandu. Direct observation and field notes were kept based on descriptive information and informal communication with team members during swab collection. Telephone interviews with the team members were conducted at a convenient time.

Results: Despite the fear of infection experienced by healthcare workers, they are ready to serve people, fulfilled responsibilities, concentrated on duties, and showed professionalism. They felt difficulty in working with airtight PPE and maintaining infection control measures for long working hours.

Conclusion: The training on infection control measures and swab collection associated with COVID-19 helped to extend knowledge and develop confidence in skills. Furthermore, it is essential to supply adequate PPEs and ensure a secure working environment to cut back fear and uncertainty.

Keywords: Experiences, Swab collection, Institutionalized quarantine, Challenges, COVID -19

ARTICLE INFORMATION	Source of Support: Self	Conflict of Interest: None
Received: 26 March 2021	Accepted: 4 August 2022	Published Online: 30 August 2022
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INTRODUCTION

Coronavirus has globally affected and placed extreme demands on healthcare workers. Worldwide, there have been 80,185,077 confirmed cases; 1,756,809 confirmed death cases; 218 countries, areas, or territories affected with cases as reported on 25th December 2020.¹ By 25th December 2020, 2,57,200 confirmed cases followed by 1,816 deaths were reported in Nepal related to COVID-19.² Around 4,958 health workers (published on 28th September 2020) across the country have tested positive for COVID-19 and seven have died due to COVID-19.³ Frontline healthcare workers must work in close contact with

suspected and confirmed patients with coronavirus. In such a condition, there is a high risk of infection which can contribute to the further spread of infectious disease.⁴

It is considered a useful approach to addressing the antecedents of healthcare workers' issues and understanding the components that influence their experiences with different acute infectious diseases. The anxiety among health care workers can be better avoided by a candid acknowledgment of the challenges.⁵ It may lead to improve protective measures for health care workers and enhance the

outcome of safety measures, so they can be better prepared for an epidemic.

While handling infectious diseases, consistent use of personal protective equipment (PPE) is of utmost importance to scale back nosocomial transmission.⁶ Health professionals caring for people with confirmed or suspected COVID-19 are prone to develop mental health problems.⁷ However, the experiences and challenges of health care workers during coronavirus vary in regions and remain controversial. Thus, it is obligatory to realize insights into the lived experiences of healthcare workers to support them effectively during the COVID-19 crisis.

The target of this study is to explain the fieldwork of the sample collection within the institutionalized quarantine of COVID-19 and explore the most important challenges and issues during sample collection.

MATERIALS AND METHODS

Study design

We used a qualitative case study as a research methodology to explore the case participants' opinions and experiences which allows an in-depth understanding of the working environment and health workers' perceptions during COVID-19 swab collection. The understanding of the phenomenon allows the elaboration of existing concepts of health workers' experiences during COVID-19 swab collection.

Study setting

Nepal government declared mandatory institutionalized quarantine for 14 days for the travelers from abroad countries and could move to their homes only after the confirmed negative result of the PCR (polymerase chain reaction) test. The particular sample collection was conducted in four institutionalized quarantines in two locations i.e., Sinamangal and Gongabu of Kathmandu. Although most of them have done PCR-test in the respective countries from where they have come and the results were negative, people decided to stay in quarantine for the safety of their family members. A total of 212 samples were collected in two institutionalized quarantines.

Study participants

A homogenous group of health workers, who were directly involved in the swab collection process was selected purposively for the study. The swab collection

team had three nurses and one laboratory technician recruited from COVID-19 designated hospital in Kathmandu. The data collection procedure continued till we obtained data saturation which means no new theme categories were obtained from participants' experiences. All the team members were involved in the sample collection of the suspected case that was in institutionalized quarantine.

Ethical Consideration

The ethical approval was obtained from the institutional review board (IRB) of the Nepalese Army Institute of Health Sciences. However, informed consent from all the team members was taken before collating, summarizing their thoughts, feeling, and views about the experiences and challenges of the swab collection and inclusion in the study. Likewise, the anonymity of the team members is maintained in the study and represented each participant as C1, C2, C3, and C4, including removing any identifier of the team members. In addition, the confidentiality of the information, opinions, and thoughts was strictly maintained. The information will be only used for the study purpose. Besides, the names of hotels were not disclosed to maintain privacy.

Data collection procedures

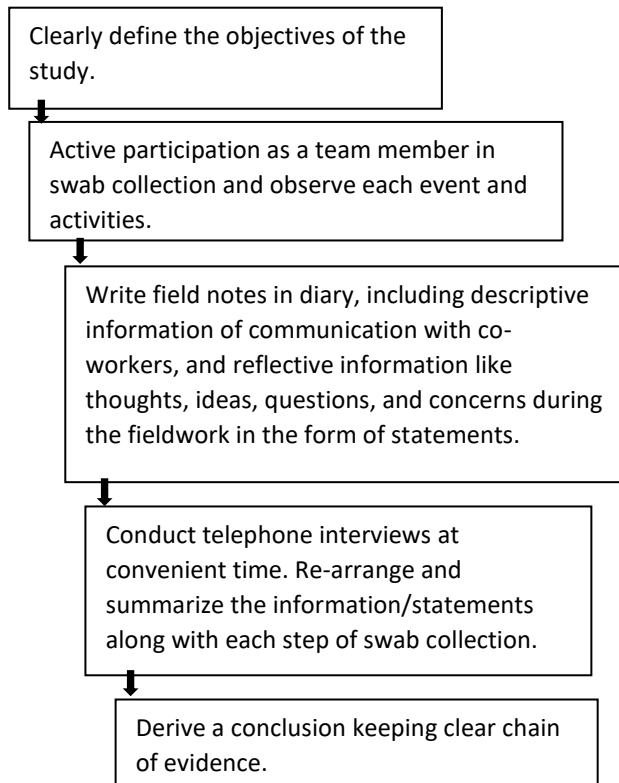
The case study researcher and co-author observed the events and activities during the process of swab collection in October 2020. The observation, field notes and documents serve as the primary source of data followed by the semi-structured and extensive telephone interviews at a convenient time for participants. The case participants' age, marital status, family history, house environment, years of work experience, department, training and date they started working on the COVID-19 activities was obtained within the beginning of the interview. The broad generating questions as "Please tell me about your experiences of swab collection process during COVID-19" followed by open ended questions such as "how are you feeling now" were used for detail descriptions.

Data analysis

The narrative analysis allowed us to understand the meaning conveyed, identify significant phrases and reformulation of opinions. Discussions through research team helped in validation of meaning which led to organize themes into categories and develop full description of themes. Credibility within the study was

achieved by in extensive telephonic interviews followed by peer debriefing.

The transcripts were analyzed by researcher and co-author independently by bracketing data so as to set aside preconceived notions. Then findings were extensively discussed by the team until consensus on theme categories was achieved.



S1 Figure: Steps of data collection and analysis.

RESULTS

The experiences and challenges are presented in the different stages of the swab collection such as preparation, during, and after the fieldwork.

Preparation

The health workers were trained on using PPE, sample collection, infection prevention, before mobilization to the field. A presentation was conducted about sample collection sites, the process of team arrangement, security, and transportation. Previously they have not worked in infectious disease and epidemic management. “We got training along with educational videos and materials as infectious disease is not our specialty.” (C3)

During the swab collection day, the main responsibilities were to arrange equipment, set a place for swab collection, sample collection, and management of samples. The structural layout of clean,

contaminated, and semi-contaminated zones was modified from the garden area and halls in public areas. “We try to understand the guideline released by the country and discuss with colleagues who already had been involved in the swab collection.” (C4)

Fieldwork

Health workers felt nervous and were not able to perform the assigned task with full confidence despite they learned all the procedures and guidelines in the training. It could be due to perceived higher susceptibility and severity of coronavirus, including lower self-efficacy of infection control. “I was nervous and lacked confidence in performing the assigned procedure. The training helped in boosting confidence.” (C1)

They experienced that long working hours with PPE was exhausting. “I felt very uncomfortable after wearing the PPE set. The mask did not hold on properly as I kept on sweating, felt like my mask will slide down.” (C1) “My whole body was sweating; sweats were collected in the boots. After a while my feet were swollen and I had pain in the leg during the movement.” (C2) “We could not eat, drink, go to the toilet while wearing PPE and had to follow strict infection prevention measures for long working hours. My dry eyes got worsen along with long working hours in PPE and I had a headache which made it difficult to work.” (C4)

After the fieldwork

Health care workers were anxious about unintentional occupational exposure, the transmission of the virus especially to children and old age family members with co-morbidities. “I fear about missing steps and touching the contaminated area. I reviewed the steps of taking off PPE, even in my dream.” (C4) “The social stigma of health care provider working with COVID-19 prevails in our community, so I did not share occupation details with neighbors and relatives.” (C1) The self-management strategies include paying less attention to information about COVID-19 and avoiding negative thoughts. “I got involved in gardening and listened to music which aided in lightening my mood. It helped me to divert from thinking about work and chaos.” (C2) “The nutritious food provided by family and deep sleep helped to replenish the strength. I consumed hot beverages like hot lemon water, herbal medicine, and green tea along with citrus fruits.” (C1)

“The experience of swab collection as frontline health care worker was great. I am more confident and qualified for these kinds of challenging jobs and emergency management. Even my awareness of self-protection and communication skills has improved.” (C4) “I take whatsoever comes in my life. I had an opportunity to serve people and I did my best. I am proud of it.” (C3)

DISCUSSION

Learning about the lived experiences of healthcare workers during the coronavirus epidemic may contain important information for handling future epidemics.⁸ Our study revealed that health care workers (HCWs) have experienced a fear of infection to themselves and their families. The major challenges were the difficulty in working with airtight PPE and maintain infection control measures for long working hours.

Workload

Health care workers were concerned about the disproportionate burden assigned at work, particularly concerning the involvement of the individual in contact tracing, surveillance, swab collection, and hospital-based management.⁹ A reasonable work schedule and effective communication should be focused on the management of human resources working along with pandemics.

Intensive training

Most of the health care workers had few experiences in epidemic management. If health care systems are not able to handle the outbreak of infectious disease; it is essential to manage timely training, education, information, and effective communication.¹⁰ It is pivotal to continuing medical education so as to assure adequate medical teams to deal with public health emergencies.¹¹ The differences might exist among team members related to variations in institution's culture, procedures and communications when personnel from various institutions work together. Hence the promotion of inter-professional and inter-organizational collaboration should be prioritized in order to make sure efficient work during pandemics.¹²

Wearing PPE

While working with PPE for longer hours in the community field during the summer season leads to physical distress. When an outsized health crisis occurs, authorities must emphasize on importance of self-care, the maximum working hours, and arrange

shifts reasonably to safeguard health-care providers from overwork.¹² Inconsistent with research study, front-line health care workers had minimum of a threefold increased risk of COVID-19. However, even with adequate PPE, HCWs are in danger. Ensuring about PPE quality and availability only is not effective measure. It highlights the importance on aspects of appropriate use, correct application, location for donning and duffing of PPE.¹³

Working environment

Public health experts have stated that rising infections among health care workers is alarming because it signals a shortage of frontline health-care workers not only to treat patients with COVID-19 but also with other ailments.¹⁴ Along with training on infection prevention, it is important to create secure working environment and sufficient protective supplies to cut back fear and uncertainty. During the SARS epidemic, nurses' higher levels of trust in equipment or infection control initiatives were related to lower levels of emotional exhaustion and state anger.¹⁵

The recommendations released by government of Nepal includes staying at your home except to get medical help, separate yourself from other people in the home, wear a facemask, wash your hands, avoid sharing household item and monitor signs/symptoms.¹⁶ The health-care workers staying with joint family and weak infrastructure at home might not be able to follow the recommendations and strict infection prevention measures. With an arrangement of institutionalized quarantine for frontline healthcare workers might help in reducing the anxiety and fear of virus transmission to family members and neighbors.

Social stigma

Prevailing social discrimination prevented HCWs from sharing work activities with neighbors and distant relatives. As reported by an official, health workers serving in local hospitals and laboratories are facing difficulties finding food and shelter.¹⁷ Neighbors and community people are showing displeasure and reluctance to permit front line health workers to reside in their home and near home even though health workers are working with strict infection prevention and control measures.¹⁸ The dissemination of accurate and factual information helps to counteract COVID-19 social stigma in people and probably minimize social discrimination the frontline health care providers are facing.⁹

Mental health well-being

Health care workers who faced stigma were more likely to develop psychological problems as compared to those who did not face any stigma. The odds of anxiety and depression were associated with insufficient preventive measures in the workplace.¹⁹ The emphasis should be on providing comprehensive support to frontline healthcare providers from the administrators and society to form a healthy working environment which in successively improves the mental well-being of health care providers during COVID.⁹

Despite challenges, frontline healthcare workers showed great strength and worked patiently. They used multiple support systems (colleagues, family members, and team leaders) and diversional therapies to relieve stress and redeemed themselves. During the MERS epidemic, frontline healthcare workers were found to be at higher risk of developing symptoms of post-traumatic distress syndrome (PTSD) even after the epidemic.²⁰ The COVID effect has just begun in our country so participants were able to deal with emotional stress.

The study provides little basis for the generalization of results to the wider population. The sample composition may reflect experiences of health workers of the Government of Nepal working in urban

areas. The volume of information obtained together with time restrictions in a place affected the depth of analysis that was possible within the available resources.

CONCLUSION

Despite health and safety concerns, health care workers showed an excellent deal of professional dedication and strength. They used multiple support systems and self-adjustments skills to alleviate stress because they knew they needed to be strong and concentrate on their duty to avoid wasting more lives. Though participants in the study were ready to deal with stress without professional support, monitoring of mental health and psychological counselling is required. The training on infection control measures and swab collection related to COVID-19 helped to increase knowledge and develop confidence in skills. A secure working environment and sufficient protective supplies are very vital to reduce fear and uncertainty among health care workers.

Acknowledgment

We want to extend our deep gratitude towards respondents for their participation and contribution in management of pandemic.

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