

A qualitative examination of quarantine work experience of nurses in Saudi Arabia

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Abstract

Background: COVID-19 infection was identified in 2019 and has reached pandemic stage. Historically, quarantine has been used to curb the spread of epidemics and is presently being used in Saudi Arabia for this purpose. Little is known about the impact on professional nurses practicing in this setting although preliminary discussion of this and the H1N1 pandemic of 2009 suggested that special training and consideration of special needs of nurses in this environment are needed. The aim of the present study is to explore the caring experience of Saudi Arabian nurses who are manning the quarantines.

Methods: Nurses employed in these centres were recruited via e-mail from lists provided by the Ministry of Health. Among those approached, 8 professional Saudi nurses were individually interviewed in March, 2019 via telephone. Informed consent was obtained. Transcripts of interviews were transcribed, inductive themes extracted, and analysed via NVivo software to form a conceptual framework of the quarantine experience.

Results: Perspectives communicated by the participants illuminated 6 main themes: Administrative Concerns, Nursing Roles, Patient Perspectives, Personal and Emotional Aspects, Training, and Special COVID-19 Quarantine Care Needs which together composed the central theme: Breaking the Wave.

Conclusions: Professional needs and personal challenges faced by nurses during the delivery of care for quarantine and disasters may supply a valuable perspective to this aspect of practice and may assist in providing useful considerations for preparation to meet challenges of this type including nursing education and training in administration, infection control, health education, and disaster management.

Key words: COVID-19, health education, infection control, nursing, quarantine, Saudi Arabia.

Background

The Coronavirus group was identified in 1960. Initially it was viewed as a simple and non-fatal infection causing the common cold. However, subsequently, various forms of this virus group which cause life-threatening symptoms have emerged and spread to various countries resulting in high mortality rates (1).

A new form of the Coronavirus known as COVID-19 emerged in China in late 2019 and has since spread to nearly every nation of the earth. It has affected millions of persons and has resulted in 414,581 deaths worldwide as of mid-June, 2020(2)

Quarantine as a method of limiting spread of disease is quite ancient, being found in the Book of Leviticus of the Christian Bible as a method for controlling leprosy(3). The renowned Islamic medical scholar Ibn Sina established the concept of *al-Arb'iniya* more than a thousand years ago(4). In public health practice, isolation and quarantine are procedures used to protect the community by isolating persons who have contracted or been in contact with persons suffering from a communicable illness (5).

Nurses over the years have been frontline fighters against pandemics and it has been seen clearly in the recent coronavirus COVID-19. They have a key role in any response to pandemics. Nurses define their professional role to include provision of care in disasters, wars or pandemics(6). Despite potential threats to themselves and their families they are committed to providing care in emergent health crises(7).

Epidemic outbreak and the need for quarantine and isolation care creates heavy demands on those who may be exposed to infection, required to work extended shifts, and be separated from their loved ones(8). Martin(9) found that 90% of nurses studied during the 2009 H1N1 pandemic were willing to work with shortages of PPE (personal protective equipment) and the remaining 10% were unwilling because of fear of personal infection. Another important source of unwillingness to care for those suffering from communicable conditions was found to be the potential threat to the health of nurses' families(7). Thus, nurses are placed at the epicenter of providing the care needed during pandemics and may have a variety of personal concerns which affects their successful participation.

Orlando posited in the theory of Deliberative Nursing Process that one role of nursing is assistance of others to obtain what is needed from the environment to meet their needs when they are unable to meet them themselves. It is then the nurses' professional responsibility to enable the patient to engage in developing these self-help abilities(10).

Those patients who are quarantined are in the position to receive this type of care in facing the pandemic. Educational activities for patients which implement the constructs of

Pender's Health Promotion Model may be appropriate for developing self-help capabilities(11). In this context education may be aimed at learning sound preventive and protective habits giving patients experience and practice to build constructive defence strategies to employ when they re-join the community.

Our aim in this study is to explore nurses' experience at quarantine facilities during the 2019-2020 COVID-19 pandemic in Saudi Arabia. Their activities in caring for patients, patient's needs and responses to care, and personal and professional obligations placed on the nurses will be among the concerns of the inquiry.

Methods

Qualitative grounded theory design is employed. Grounded theory developed in sociology and was first described by Barney Glaser and Anselm Strauss as a qualitative methodological approach in which the aim was to generate a grounded theory to describe and explain the phenomenon under study. The paradigm which provides a base for this study is a constructivist shared understanding of the nursing role in caring for patients in quarantine related to COVID-19 infection and social interactions in that context. Interviews were used in a technique described as constant comparison in which all the data which emerged from previous interviews forms the basis for theoretical sampling which may produce more complex data(12).

Setting

During the COVID-19 pandemic of 2019-2020 the Saudi Arabian Ministry of Health selected a number of hotels and prepared them as quarantine facilities for persons suspected of being infected with COVID-19. These persons were isolated for testing and if the results showed positive infection they were transferred to a healthcare institution to receive medical treatment. On the other hand, if the result was negative they would be held at quarantine facilities and observed. Thereafter they would be discharged home after the passage of the incubation period mandated in the Ministry of Health Protocol. Three hotels in Riyadh city which had been selected for this purpose were chosen for this study.

Sample

Selection of the sample was purposive. Invitations were sent via e-mail to nurses who were currently working in the selected hotels. From this group, all 8 nurses who responded were included in the study.

Ethical considerations

The study plan was reviewed and approved by the central IRB-MOH (Institutional Review Board - Ministry of Health – Kingdom of Saudi Arabia) with log No.20-73M. An informed consent protocol was read to the participant including confidentiality of data and the ability to withdraw from the study at any time. Data was anonymized before transcription.

Data collection

The data was collected through individual interview with each participant. A suitable date and time for meeting was established for an online interview. Duration of each interview was 40 to 50 minutes. Digital recording was used to preserve data for transcription. The purpose of the study had been explained in the recruitment letter but was reiterated at the beginning of the meeting. Following the consent of the participant, the following questions were posed:

- 1- Please describe your work experience in the quarantine for suspected COVID-19?
- 2- Please describe your perceived feeling toward working in quarantine with suspected cases of COVID-19?
- 3- Please describe if there were any unique situations or experiences during your work in quarantine?
- 4- What are the challenges of working with suspected cases of COVID-19?

Saturation was achieved when no new themes emerged during interviews with the 8 participants.

Data was transcribed to hard copies and stored in a locked facility. Digitalized duplicates were stored on the laptop of the principal investigator and on a flash memory drive.

Tabulation and analysis of data:

Digitally recorded narratives were gathered from each subject. These narratives were transcribed and saved as Microsoft Word documents, which were stored on the laptop of the principal investigator and on a flash memory drive. Hard copies were stored in a locked facility.

Transcripts were reviewed independently by the principal investigator and co-investigators to extract inductive themes. All data was examined with no limitations. NVivo software was employed to extract axial themes. The output of this analysis was further reviewed and organized by the investigators for major themes and sub-themes which were used to illuminate concepts extracted from the narratives.

Personal opinion and normative standards were not implied to the participants in order to prevent bias. Questions were non-directive and open ended and neutrality of language was carefully maintained. Credibility and trustworthiness were enhanced by member checking during data collection and peer review.

Results

As themes representing the major factors were illuminated, sub-categories emerged. The practice used in inquiry with this method allowed for the emergence of concerns of the subject making this method highly suitable for analysing areas of this nursing experience(13).

The themes which emerged during analysis of results were administrative concerns; training; special care needs, patient perspectives; nursing roles; and personal and emotional roles. Figure 1 presents a graphic framework of the COVID-19 quarantine caring process and Table 1 presents the primary and secondary codes and themes and subthemes which emerged from the data.

The emergence of the core concept of BREAKING THE WAVE gathers all aspects of providing nursing care for those quarantined during the COVID-19 pandemic in Saudi Arabia. Strauss and Corbin noted that a substantive theory is used to gain insight and understanding of the group under study and may be useful(13). As such, this type of theory may be of assistance in guiding and stimulating development of knowledge, explaining interactive structures, and illuminating dynamics of organizational life(14).

Table 1: Inductive and Emergent Themes and subthemes

Inductive	Emergent themes	Subtheme
Administrative Concerns- Steady, Ready, Go	Leadership	<i>Need emotional support; need support from power structure; need support from leaders; need strong and supportive leader.</i>
	Lack of staff	<i>Every day a new policy; they prepared us completely within 2 days; new rules; pressure from other ministries; Plan for future; administrative policies and procedures not ready- we are the ones who created them; need to have a list of qualified infection control people available before disaster</i>
	Hygiene and Cleaning Staff	<i>Hygiene, cleaning staff: Positive and negative quarantine; staff in hotels not trained in infection control; cleaners need supervision; untrained workers sterilize room after discharge; no hygiene provided from hotel; sources of infection: staff to patient, patient to staff, deliveries, untrained security staff; afraid cleaners will not do an adequate job;</i>
	Security and Breakout	<i>Afraid of breakout by patients, security staff poorly trained</i>
Training	Training	<i>Training: Not experienced in quarantine care; will to learn, motivation, ready now, grasp, statistics, online training, must be someone responsible for training, some other staff not trained, don't do care properly, I have experience, courses, MERS-COV is more dangerous, I know how I experienced IC and PPE with MERS-COV; nurses should be chosen who know IC; already staff infected because of lack of training; untrained staff can contaminate themselves, patients, and others; not qualified;</i>
Special Care Needs	Special Characteristics of COVID-19 Care	<i>Characteristics of COVID-19 which affect nursing staff in caring: without symptoms; very weird; violation will ruin everything; scary; cannot trust; sources of infection; cannot see; safety; not scared; special clinic on site; strange how everything changed</i>
	Special Skills and Behaviour Required an Caring	<i>Special Skills and behaviour required for COVID-19 Quarantine: PPE care and use, removing and wearing; doing everything carefully, focus; continuous care; avoid touching; enter spaces one by one; PPE; precautions; don't shock them; protocol, they are our guests, take your time, hesitating, calm</i>
Patient Perspectives	Patient Role	<i>Must stay in room, stressed, ask when to be released, one by one, like jail, psychiatric care 75% of treatment</i>
	Stresses	<i>Praying; mother died- patient not allowed to go to burial; father crying, cry and scream, social distance; at least 2 meters; lot of questions; immunocompromised, liver transplant; infection separates family members</i>

Table 1: Inductive and Emergent Themes and subthemes (continued)

Nursing Roles	Roles	<i>Health educators; emotional support; answer questions; psychological support; administrator; nursing care; education; manager; get them out of quarantine safely</i>
	New Duties	<i>Some nurses are not serious infection control; outsiders; data insertion; hands working together (between staff); decision making; time management; effort; focus; attention; management; punctuality; readiness; communication; teamwork; 12 hours shifts</i>
	Patient Relations	<i>VIP; patient doesn't want to transfer to positive quarantine demand; complaints.</i>
	Ethical Aspects	<i>Professional ethics, under pressure, reward from God, humanitarian, psychological pressure, voluntary, national duty, trust in GOD, giving, listening, decrease stress, explaining, calm, communication, bad behaviour, rising voices, demanding attention</i>
Personal and Emotional Roles	Caring Roles	<i>New; heroes; challenge; struggle; cry; can do again; passion to learn; afraid; supported; friends; happy to work; fake disease vs. Real; invisible; nice interesting; wonderful; hesitating; stress; challenge.</i>
	Personal Roles	<i>Depend on self totally, no recognition for good work; first people with this knowledge; doing something great; acquire knowledge; public not appreciating; prepare to be away from family, cry; protect loved ones; my family; want to see family; away from my mother; apply social distance; isolate myself, out only once; mask; missing home</i>

Discussion

Theme 1: Administrative Concerns- Steady, Ready, Go

Subtheme 1.1: Leadership

When MERS-CoV (Middle East Respiratory Syndrome) was identified in South Korea, affecting 186 patients, a qualitative study was employed to better understand the work experiences of nurses caring for them(15). Although caring for persons with an infectious disease, most of the themes which emerged from focus groups and individual interviews were related to some facet of administration of care. Participants expressed that they needed support from leadership, specifically relief from work overload. Receiving excessive unclear instructions which contained frequently changing guidelines caused distress and confusion among those providing care(15).

In the current study participants emphasized that strong supportive leadership with consistent policies and procedures were important for a successful outcome. This was expressed in the following ways: *If the leader is strong and support[s] the juniors this makes a difference.* Nurse #3. *Every day they have a new rule and this will make you stressed and not focus.* Nurse #6: *We did not have administrative policies and procedures, we are the one[s] who created them.*

Evaluation and recognition for performance was mentioned as a source of dissatisfaction: Nurse #1: *At the administration level you feel some times that some people are working and others are not and at the end they are the same. There is no recognition from above.*

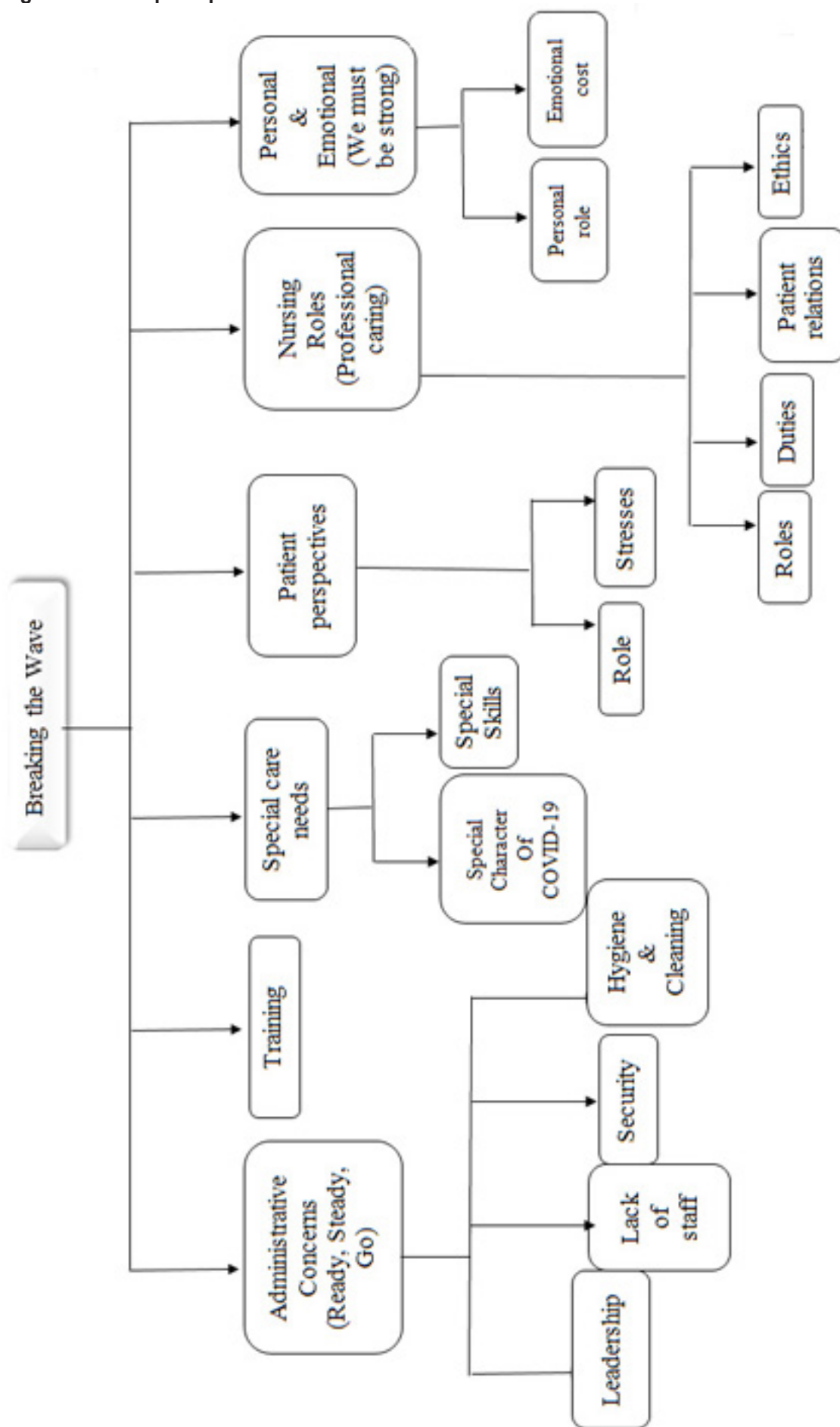
Subtheme 1.2: Lack of staff

Nurses working in quarantine settings found staff shortages stressful. They felt that they were performing tasks which would rightly be done by other healthcare professionals such as: Nurse #4: *All of the tasks fell to nurses. My role in this period was as a total medical staff.* Nurse #7: *You will represent all the medical staff and all the titles not only one person. Even you go and search for the lab results.*

Furthermore, when the quarantines were initiated, there was a lack of critical resources and staff: Nurse #3: *Actually the challenges we face mostly are lack of resources.* Nurse #5: *The number of guests one day reached to 280 or 270 but is now 64.* Nurse #8: *because of the shortage of staff the tasks are distributed between us.*

Corley et al. (16) explored the lived experience of Australian nurses during the H1N1 virus pandemic. They found that: the wearing of PPE, infection control procedures, the fear of contracting and transmitting the disease, adequate staffing levels within the intensive care unit, new roles for staff, morale levels, education regarding extracorporeal membrane oxygenation, and the challenges of patient

Figure 1: Concept map



care were the main themes which emerged during the use of open-ended questionnaires and focus groups. These themes express similar concerns voiced by the Saudi nurses who worked in quarantine settings and emphasized the need for specialized training of a variety of staff prepared for emergency use especially in delivery of care using increased oxygenation and patients of high acuity.

Subtheme 1.3: Hygiene and Cleaning Staff

An important concern of the nurses was the level of training among cleaning and security staff who manned the buildings hosting the quarantines.

Nurses felt they needed to perform sterilization after patients were discharged and before the hotel cleaners came: Nurse 5: After they [are] transferred we sterilize the rooms before the cleaners come to clean because I am afraid that they don't know how to deal with it as in hospitals... because just one single mistake they make may transfer the infection to themselves or to others. Nurse #1: *The hotel staff who are working in the quarantine are not aware or trained on the medical things so we had to monitor them every time.* Nurse #8: *The thing I did not like is the hotel's way of dealing with us. They were not cooperative with us or with the guests. I even saw a mouse running from one of the guest rooms. When I informed the host they said "no, no, we don't have any".*

Subtheme 1.4: Security and Breakout:

Breakout, meaning unauthorized exit by a patient, is an ever-present threat in a quarantine environment. Nurses are placed in the position of negotiating with patients to accept the room assignments and confinement to specified facilities. Nurse #2: *A week ago one lady here received a positive test and they were afraid to tell her, so I went and informed her. She did not accept it and didn't want to be transferred to another hotel and they wanted to inform the security about her again. I went to her and I explained to her the situation and the protocols from the country and explained that we are here to serve you and if it was in our hands we would put you in the best hotel but for the confirmed cases there are specified hotels which we cannot change. The issue is not about prestige and we need you to help us, not to be a barrier for us.*

Nurse #4: *I am worried about staff and afraid from [of] breakout. After the swab is taken they go back to their rooms and we make sure they are inside their room with cooperation from the security agencies who work with us.*

Theme 2: Training

In general, nurses felt they were prepared for meeting the pandemic. Nurse #3: *I consider [viral] outbreaks to be a disaster. As long as we have a disaster plan, we are prepared for any disaster. So we need to plan for the manpower, for the places, resources all this needs to be done. So yes, we got prepared for this outbreak.*

However, participants felt that specified training to meet the immediate nursing practices required was not

made available in a timely manner. Nurse #6: *It should be coordinated from the beginning and train the staff before bringing any guest, not to bring staff and then train them after two days.* Nurse #2: *Some of the staff had no experience with using ventilators.* Nurse #8: *Now as a primary line to detect Corona I am ready. But as a hospital nurse and receiving cases of respiratory disease in critical condition on a ventilator I am not ready because I am not trained, not qualified. I am ready to handle a positive and stable case.*

Undergraduate, advanced degree, and continuing education programs for practicing nurses may discuss infection control but mass casualty care and disaster management skills need to be incorporated or strengthened in curricula(17). A view which agrees with the statement of a participant in the current study: Nurse #1: *Disasters come at any time. It is good to prepare a team who are ready for any outbreak in the future.*

Some of the nurses in the study felt that they were not prepared in a timely way to assume quarantine duties: Nurse #5: *We stayed two days; nobody explained for[to] us and there was no team. We worked and read what the updates are[were] from the ministry.* This delay caused consternation among the participants. Nurse#4: *With COVID-19 every day brings a new study about the mode of transmission.*

However, some of the participants felt that they had been properly prepared to practice infection control by a two-day online introductory course. Nurse #3: *We received online training about the infection control and the contact with positive cases and how to transfer cases from a positive quarantine to a negative quarantine.* Nurse #8: *They prepared us about the precautions during outbreaks through lectures before we joined and covered hand hygiene and how to wear PPE so we were prepared before we joined here.*

Even so, some participants were concerned that training issues would result in increased infections. Nurse #7: *Medical staff became infected because they were not trained, they did not take courses or trained or follow the PPE and safety measurements. They will infect themselves, the family, and others or go out without knowing what the result is and that they are infected. So we need specialized programs, courses and specialized teams.*

For the nurses among the group who were trained in infection control, they expressed that their experience with MERS-CoV prepared them to take appropriate action during the COVID-19 pandemic. These participants were satisfied with their preparation levels and were more confident than less well prepared colleagues. Nurse #7: *Yes, I was ready and they selected me by name because I have [had] experience before with MERS-CoV and it was more dangerous than COVID-19 because of its mode of transmission. When we dealt with MERS- CoV we had to wear a N95 mask but for COVID-19 we are using*

a surgical mask and PPE. So I am ready. I saw a big difference between myself and those who did not have such experience.

These data in the present study tend to support the findings of Tam(18) which show that nurses who had experience in infection control tended to be more positive about their ability to face an avian influenza epidemic. In that study nurses who had not been employed during the SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus 2) epidemic were less confident in accepting personal risk from infection.

The nurses in the present study felt quite strongly about the best way to improve infection control: Nurse #2: *I have a suggestion that those who are responsible for the quarantines must be involved with infection control. I mean that some of the people who were responsible for quarantines did not practice infection control. They must be qualified.* Nurse #1: *Follow up and training even if the staff are trained is very important.* Nurse #6: *There should be an infection control coordinator on every shift.* Nurse #7: *Just I want to add it is best if the chosen nurses[nurses chosen] to work in the quarantine are familiar with the infection control basics, not just because of shortage bring any nurse who is not prepared in the infection control. This is dangerous even to themselves.*

Theme 3: Special Care Needs:

Subtheme 3.1: Special Characteristics of COVID-19 Care

Participants were unsure of this virus and felt that they were dealing with a highly unpredictable threat. Nurse #4: *I was scared to get the virus and take it to my family, to my kids, and to people I love.* Nurse #3: *Dispersion, how everything is changing, it's really strange. This happened in one month and a half.*

Nurse #5: *We deal with the negative cases as being [as if they are] positive because some cases appear negative at the first swab and in the second swab they are positive. This virus is very weird because still we cannot trust 100% that cases are negative and we have to be careful and deal with all cases as positive because they may be the sources, but maybe [it could be the] staff, housekeepers, and home services are also [possibly] spreaders.*

Subtheme 3.2: Special Skills and Behaviour Required and Caring

Participants exercised skills and behaviour based on the COVID-19 protocol: Nurse #2: *We did well with them as we were checking vital signs with complete PPE. The first time I worked in quarantine it was stressful because it needs time, needs effort, needs focus, needs attention, needs infection control, and continuous care.*

Nurse #8: *We wear complete PPE; gown, mask, head cover, gloves and even the face shield. We make sure that the guests rub hands when entering to the quarantine and wear a mask, we take his name and give him the key for the room and then take them straight away to the room. If they have any questions, inquiries, or anything it*

will be covered while he is in his room by [tele] phone.

Some of the nurses found it difficult to decide to work in a quarantine section at first. Nurse #4: *I have never been in this experience before either with the previous MERS-COV or with SARS-CoV-2, but this time I am facing the situation so in the first moment it was really hard. Then I said, "Oh my God, no, I will be there". I decided to go.*

Some staff had not been trained in the COVID-19 care protocol:

Nurse #1: *We have medical staff who are infected –why [?] because they were not trained, they did not take courses or trained or follow the PPE and safety measures. They will infect themselves, the family, and others, or go out without knowing what the result is and that they are infected. So we need specialized programs, courses, and specialized teams.*

Theme 4: Patient Perspectives

Subtheme 4.1: Patient Role

Patients have a well prescribed role to play during their stay in quarantine. Nurse #7: *We don't allow them to come out of the room whatever happens. Everything is done in the room including history. All needs are addressed by phone as we try to minimize the exposure as [much as] we can.* Nurse #3: *Psychological support is very important as you know being in quarantine is like a jail but it is tidy.*

Subtheme 4.2: Stresses

Sometimes stresses beyond being confined to quarantine were experienced by patients. Nurse #1: *Patients are stressed, isolated, and asking when they will be discharged and what the swab results were.*

Significant life events occur among patients which increases the stress associated with confinement. Among these events was the need to care for critically ill family members or a death. Nurse #5: *Patients are not allowed to attend to their family obligations which is very painful for them.*

Nurse #4: *A patient's mother died in Germany because of cancer and he was with her for 7 months. It's painful really that he came in the same airplane with his mother's body. It's [was] really very hard and then he came here and they took the mother and he was alone. He was 22 years old and he started to cry and scream "my mom, I want to go and see my mom, I want to say goodbye to my mom". So, these things are hard to be forgotten and when I talked [talk about it] it looks easy but when you are in the same situation and you are seeing everything it is not.*

Separation of family members can be very distressing. Nurse #6: *We did swabs for a family. All of them were negative except their 4 year old child was positive. When we informed them the father started to cry.*

Theme 5: Nursing Roles

Subtheme 5.1: Roles:

Participants defined their role in caring for patients in quarantine at a professional level: Nurse #4: *They need and deserve the patient care, the proper nursing care, and this is our role.* Nurse #2: *This is our duty first among those who belong to the nursing profession – to provide nursing care under all different situations.* Nurse #6: *I learned many things in the nursing role, care, time management, punctuality, readiness, communication with the team, team work.*

The participants also felt that they were adding to the collective knowledge of the nursing field: Nurse #8: *We are dealing with new things here and take information about it. I am one of those first people who is taking this knowledge.* Nurse #3: *I had a passion to learn.*

Nurses assigned to quarantine found their roles were multipurpose: Nurse #7: *I was a nurse, I was infection control, I was administrative, I was a statistician, I was supportive, I was a health educator.* Nurse #6: *The first time I worked in quarantine it was stressful because it needs time, needs effort, needs focus, needs attention, needs infection control and continuous care.*

And responded with deeply committed action to the challenge: Nurse #7: *I am different now, 180 degree, totally different, I am not scared, I can face anything, I can deal with positive cases and I can do anything for my country, for people and everyone.*

In contrast, feelings expressed by these nurses toward professional nursing and national service values were somewhat different among emergency nurses in Hong Kong during the H1N1 outbreak(7). Hong Kong nurses were committed to caring in this setting but expressed the need for better utilization of PPE, availability of more accurate information for the public, and better allocation of manpower.

Subtheme 5.2: New Duties

During the assignments participants were pleased to learn and have new duties which increased their professional skill: Nurse #4: *We work on data insertion which gave me a chance to learn on Excel which was complicated for me to use before.* Nurse #1: *if you suddenly are with a new work group and you became their leader.*

Subtheme 5.3: Patient Relations:

Effective communication with patients was seen as a valuable tool in the caring process. Nurse #8: *I saw that the feedback from communication helped people to become calm.*

Some participants found that patients expected to be cared for in different ways based on their social status. Nurse #5: *VIP patients had a lot of demands. ... but at the end we count the reward from Allah.* Nurse #7: *We follow the professional ethics because whatever happened they were under pressure.*

Subtheme 5.4: Ethical Aspects:

Application of ethical precepts assisted the nurses to provide high quality care. Nurse #3: *This work is adding to my professional experience but it is dominated by a humanitarian and voluntary aspect. Also, it is a national duty. I am giving my duty that belongs to my profession under all conditions.* Nurse #6: *I feel that I am giving by listening to them to the extent that their stress [is] decreased by explaining everything to them.*

Theme 6: Personal and Emotional Roles:

Subtheme 6.1: Caring Roles

Participants discussed the personal costs of doing service in quarantine duty. Nurse #3: *Oh my God, I miss my family, I miss my kids, I miss everyone, I miss my office, I miss my people there, I miss my friends, I miss the places, I miss the country, I miss everything, so you feel that you are missing everything. This is really, really hard but on the other hand you want to do something.*

Those nurses practicing in disaster care in Iran expressed similar conflicts with emerging themes including concern for their families, conflicting emotions, and worry about the length of time their services would be required(19).

During the COVID-19 crisis, healthcare workers in Wuhan, China overall reported being affected by depression, anxiety, insomnia, and distress at 50.4 %, 44.6%, 34.0% and 71.5% respectively and frontline healthcare workers were reported to have higher rates of experiencing these conditions(20). These data suggest that mental health resources need to be available for frontline workers during times of major crisis or disaster(21). Nurse #8: *I went home wearing a mask because I was afraid for my family. I stayed two days and I came back and I felt better.* Nurse #1: *We were afraid on the first day - of course we are afraid but we trust in Allah and we took [looked after] our safety and [took] precautions.*

Subtheme 6.2: Personal Roles:

Impact on family life was also a theme with the nurses. Nurse #4: *My parents always keep reminding me to take precautions every time I call them.* Nurse #2: *I miss my family.*

While the pull between family and professional practice is ongoing one nurse expressed it this way: Nurse #5: *I think you can feel it through the tone of my voice, I think you can feel that. I am excited I am happy and I am sad that I can't see my family and loved people. If you asked me -are you going to do it again? I will say, yes, yes.*

Limitations:

Among the limitations which may affect transferability and generalizability is that all participants were female and the small number in the sample.

Conclusion

Participants in the COVID-19 quarantine efforts were affected in a variety of ways. They felt the importance of an opportunity to serve during a humanitarian and national crisis. During their experience they encountered challenges to providing high quality nursing care to patients who were confined to quarantine.

Several specific recommendations for modification of the quarantine process were offered by them. They specifically requested that staff who man quarantine facilities should be trained in disaster management and infection control. They further suggested that a register of potential staff who have been especially trained in quarantine care be established for use when needed and held in an available and organized way.

Placement of disaster management and infection control curriculum need to be present at all levels of nursing education from undergraduate study through to continuing education for employed nurses was supported by participants and in related literature. This part of the curricula may wisely need to be placed as a stand-alone, concentrated, hands-on required course including barrier nursing, infection control, universal precaution measures, health education, and public health as bases for preparing a specialized disaster-ready nursing force.

While the participants in the current study showed remarkable personal strength, professional, and national commitment, planning for their personal welfare needs to be part of a quarantine plan. Long assignments without opportunity for contact with families posed an especially stressful aspect of participation. Facilitating contact with absent family members perhaps through electronic channels and presence of counselling services on site for stressed care providers may be useful steps to prevent staff distress and burnout.

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