



Perceptions of Special School Nurses in Hong Kong During the COVID-19 Pandemic

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Abstract

Introduction: The coronavirus (COVID-19) pandemic is a global public health crisis that started in 2020. Although health authorities believe that reducing social contact between students is necessary to protect students' health, there is limited research on the lived experiences of school nurses caring for children and adolescents with intellectual disabilities (ID) in special schools during the COVID-19 pandemic. The aim of this study was to explore the experiences of school nurses caring for children and adolescents with ID in Hong Kong.

Methods: This study used a phenomenological research design focused on experiences, events, and occurrences. Nine school nurses working in special schools in Hong Kong shared their lived experiences of caring for students with ID during the COVID-19 pandemic. Transcripts were analyzed according to the steps in Colaizzi's method to understand and accurately describe the experiences of school nurses.

Results: The role of school nurses during the COVID-19 pandemic was complex and multi-dimensional. Three themes emerged from the interview data: (1) the unpredictable and uncertain situation of COVID-19, (2) the extreme emotions experienced while caring for students during the outbreak of COVID-19, and (3) the inevitability of committing nursing errors during the outbreak of COVID-19.

Conclusions: This study provided first-hand insights into nurses' experiences in caring for students with special health needs during the COVID-19 pandemic. The findings indicated that continuous support from school organizations is needed to enable school nurses to care for students and their parents during a public health crisis, and to help school nurses to cope with unpredictable situations.

INTRODUCTION

The coronavirus pandemic (COVID-19) is a threat to students' health globally. The index patient in Hong Kong was admitted to the hospital on 23 January 2020 [1]. By December 31, 2020 (11 months later), 9284 cases had been reported, with 987 cases involving patients aged between 1 month and 20 years [1].

Health care providers in clinical settings have persistent high stress resulting from the fear of being infected due to the contagious nature of the virus in Hong Kong. Health care professionals working in community settings are also at high risk of exposure to the virus and are experiencing high stress and panic [2]. Health care providers' perceived stressors in daily work have implications on their physical and mental health [3].

The sudden emergence of COVID-19 has led to school closures in Hong Kong which contained the spread of the virus and largely reduced the risk to vulnerable students [4, 5]. To protect students' health in the community, parents, and school members (including school nurses, teachers, physiotherapists, and social workers) are working proactively to curb the spread of

this infectious disease. In this community setting, school nurses are the first level of contact within the health care system. Central to their interprofessional efforts, school nurses effectively serve as gatekeepers in assessing, coordinating, monitoring, and mobilizing resources to help maintain a safe learning environment for children and adolescents and reduce the spread of the virus in the school environment.

In Hong Kong, school nurses in special schools deliver care to children and adolescents with special educational and health care needs. These schools are often funded by the government or private sector [6]. School nurses have been working diligently with teaching colleagues and other health-related colleagues at the frontline of primary health care services in special schools. School nurses play the role of frontline workers, providing a valuable source of information and acting as a link between the school and health care system to formulate updated government health care policies related to the pandemic.

At the time this research was undertaken, little was known about the lived experiences of school nurses during this sudden and unexpected crisis. The roles of school nurses are overarching and are needed to maintain a safe learning environment at all levels in schools. Therefore, this study aimed to answer the following question: “What was it like to be a school nurse responsible for the care of students with special health needs during the outbreak of COVID-19 in Hong Kong?” Knowledge of how school nurses were able to gather reliable and updated information on COVID-19 in school communities and their unique challenges and experiences with COVID-19 is important for understanding how they will act and expand their professional responsibilities under this unexpected situation when special schools are re-opened in Hong Kong.

METHODS

This study examined the lived experiences of nine school nurses who catered to students with special health needs in a school setting in Hong Kong. The ages of these nurses ranged from 35 to 55 years ([Table 1](#)).

The participants were recruited from special schools funded by the government or private sector in Hong Kong. The inclusion criteria were as follows: (a) able to understand and speak Cantonese, (b) registered nurses or enrolled nurses in Hong Kong, and (c) nurses who provided health-related services in a special school setting during the COVID-19 pandemic. This study used the phenomenological approach built on Edmund Husserl’s philosophy of transcendental consciousness, which sets the boundaries for all conceivable knowledge. Due to its philosophical roots within the phenomenological perspective, this approach was chosen as the preferred guide for this study [7]. Hence, a subjective but detailed description of school nurses’ experiences while caring for children and adolescents after school closures due to COVID-19 was presented in a manner that was relatable to other school nurses in similar situations [8]. These experiences were reviewed by some scholars who evaluated and validated the trustworthiness of the participants’ statements [9, 10]. The interviewees’ experiences constituted a rich source of primary data that others may like to explore to understand the ordeals encountered in the wake of the COVID-19 outbreak.

Table 1. Demographic Data of Participants (School Nurses) Who Cared for Children and Adolescents with Special Health Needs in a School Setting During the COVID-19 Pandemic.

School Nurse	Age	Gender	Classification of Special School	Years of School Nursing Experience	Professional Qualification	Religion
01	50	Female	Moderate ID	12	Baccalaureate	Catholic
02	46	Female	Severe ID	19	Diploma	None
03	55	Female	Mild and moderate ID	17	Diploma	Catholic
04	46	Female	Mild ID	12	Baccalaureate	Christian
05	55	Female	Mild and moderate ID	23	Diploma	Christian
06	36	Female	Mild and moderate ID	9	Higher Diploma	None
07	50	Female	Moderate ID	23	Diploma	Christian
08	35	Female	Severe ID	9	Baccalaureate	None
09	35	Female	Moderate ID	9	Diploma	Christian

ID: Intellectual Disability

The first author from the research team (KHY) attempted to categorize the school nurses’ accounts of caring for children and adolescents with special health needs in a school setting before proceeding to the authentic consciousness of the phenomenon [7]. However, no literature is available on the experience of this distinct group of health workers in Hong Kong during the coronavirus pandemic. She avoided discussing the project with colleagues and friends, and during the research, she made a conscious effort to avoid encroaching thoughts representing her personal views. To keep a clear mind, she engaged in introspection and wrote down her thoughts before talking to each participant. The trustworthiness measures taken increased the scientific validity of the study [11].

Sampling

In January 2020, the number of both young and old Hong Kong citizens hospitalized due to the coronavirus outbreak was increasing rapidly. Hong Kong’s

educational system adopted a strategy of “one school, one nurse”; however, this was discontinued as the labor force was insufficient [6]. The first three participants were selected with ease due to the cordial relationship between the author and these school nurses. This relationship contributed to a credible and reliable qualitative study [12]. The close relationship was able to facilitate the interview process due to the level of trust between the author and the participants. Another six school nurses were recruited based on the analysis of the data collected in the initial stages and the need to capture a broader view of the experiences of school nurses during the pandemic. These additional participants were school nurses who had cared for students with special health needs for more than 8 years. This method of participant selection was ideal for recording and characterizing the lived experiences of participants and those they represent, giving us an accurate description of their life stories [13].

Data Collection

Before the interviews began, each participant was required to give their written and verbal consent, which was endorsed by the research ethics committee of a tertiary institution (Approval Reference No.: HRE200102). Pseudonyms were used instead of the participants' real names to keep their details confidential. The interviews were conducted between July and August 2020. The interviews were held individually on days agreed upon by both parties in a private room and lasted around 60 minutes. In the interviews, the participants recounted their lived experiences and gave their reflections on school nursing. The conversations were focused and loosely structured. The first question they were asked was "Could you tell me about the daily work and activities performed by a school nurse at this school during the outbreak of COVID-19?" The participants were then asked probing questions to know about their opinions, concerns, sentiments, and stresses during the flare-up of COVID-19 [14]. They were later asked stimulating questions, such as "Can you tell me more?"

Data Analysis and Rigor

Each interview was followed by a detailed word-for-word transcription of the interview recordings into a word processing document. The entire transcript of the interview was printed, and manual analysis was performed on the printed version. In the analysis stage, the team complied with the approach of six overlapping steps by Colaizzi (1978) [15]. The research team followed Sandelowski's (1993) research strategy of acknowledging the artistic approach and, exploring people's experiences instead of complying with a rigid research design that may suppress artistry, ingenuity, and thoughtfulness [16]. A high level of rigor was established through guidelines to evaluate the integrity, appropriateness, and distinctiveness of the research [17]. The researchers studied the transcribed interviews and audio-recordings multiple times. With fundamental analysis, a broader and holistic understanding was obtained. Importantly, the team meticulously examined the data from the audio recordings [18]. Each transcribed interview was thoroughly reviewed to note down distinctive accounts or descriptions and extract deductions with field notes.

For example, a participant expressed her feelings as follows: "This is my usual way of taking care of them [students]. Are you saying that I am doing it wrong?" The deductions were clustered based on distinctive themes and incorporated into an all-encompassing representation of the phenomenon. This comprehensive representation was reduced until the meaning of the phenomenon was explicit, e.g., the feeling of overwhelming helplessness among different emotions. In the final stage, Colaizzi's (1978) approach was used to address rigor concerns through member

checking by meeting the school nurses again to obtain their thoughts and verify previous deductions [15]. In each stage, the team consistently reviewed the transcripts to verify the findings obtained. Discourses between amateurs and experienced specialists in school nursing were held following interviews completion to ensure the validity of the research. The participants were encouraged to give thorough accounts of their lived experiences as school nurses caring for students with special needs in the wake of the coronavirus pandemic. This procedure triangulated the various data sources to corroborate and determine the coherency of the collected data [19].

RESULTS

Based on the narrative comments from the participants, three themes emerged from this study. A discussion of the major findings is presented with each theme.

Unpredictable and Uncertain Situation of COVID-19

The nature of the participants' work involved interactions with children and adolescents with varying degrees of intellectual disabilities (ID) who lacked self-care abilities and had poor awareness of personal hygiene. Some participants (4, 6, 7, and 9) perceived that they were at risk of infection. During the school closure period, school nurses were not on the frontline, and they felt that their chances of infection were low mainly due to their lack of contact with possibly infected students:

At work, I don't think I have a chance of being infected due to the lack of contact with infected students and their parents. I just follow my daily routine and adopt precautionary measures in school. (06) There is no guideline or information about the lived experiences of school nurses in handling crises. Owing to the increasing number of confirmed local cases of COVID-19 daily, the Education Bureau of Hong Kong announced the early commencement of the school summer holidays for students [20]. The participants thought that COVID-19 would likely be around for quite some time, and they were required to collaborate with their school colleagues to adopt necessary precautionary measures in the school environment. The participants in this study stated that they were adversely affected by the sudden upsurge of this pandemic. One participant described this uncertain situation as follows:

I had previously experienced SARS. The fear of COVID-19 [coronavirus] was greater than that of SARS in the early stage of the outbreak ... Everything was unknown with the school closures, class resumption, and the early commencement of summer vacation. (07)

Extreme Emotions Experienced While Caring for Students during the Outbreak of COVID-19

The participants described the emotions from their experiences in a school setting during the outbreak of COVID-19. The nurses frequently mentioned feelings of helplessness, powerlessness, stress, and frustration when describing how they had felt in this neglected specialty. Helplessness and powerlessness were mainly described by the participants when they were facing the unknown, and they were unable to deal with infected students. One participant said this regarding the issue:

This is my usual way of taking care of them [students]. Are you [the participant's school manager] saying that I am doing it wrong? COVID-19 is not something that I had come across before. (01) All participants described how they had to cope with huge workloads because they are the gatekeepers for preventing the spread of infectious disease in a school setting. All of the preventive measures imposed an added burden on them, and they felt stressed:

There were so many nervous parents who asked for information related to their kids ... I had to answer their questions even though I already had too much work. My workload became much heavier. (05) Another participant also felt a sense of pressure when all classes were suspended in the special school:

During the epidemic, all classes are suspended. As a health educator, I have spent a lot of time preparing online teaching materials. For example, I have prepared online video recordings of the practical demonstration of various health care techniques, such as hand sanitization techniques and proper ways of wearing face masks, for my students. I will also need to explain the reasons behind them and discuss the various do's and don'ts of each technique. (07) Participants noted feelings of frustration when colleagues did not follow the infection control guidelines properly. Some emotional statements were expressed, such as the following:

The workload was further increased when many new school nurses were hired. Whenever there was a new staff member, I had to teach her what to do, how to do it, and when to do it COVID-19 posed a heavy burden on my school. As a senior school nurse, I faced the emotional challenge of balancing my responsibilities to ensure everyone followed the infection control guidelines and deliver optimal care to students with health needs. (04) All participants had their own motivation for taking on the challenge of caring for students with ID who lacked self-care abilities to prevent the spread of infectious diseases. This pandemic situation was unpredictable and complex, and one of the participants coped with the situation as follows:

I am frustrated about the fact that [some students refuse to wear a mask]. It is extremely uncomfortable for the students to wear masks. The pressure arising from this situation is great, and some students are dealing with uncontrollable emotions ... a sense of powerlessness ...

Based on my nursing knowledge, I want to safeguard my students. (03)

Inevitability of Committing Nursing Errors during the Outbreak of COVID-19

The school nurses had to make great efforts to provide primary health care in a school setting. One of the participants advocated the practice of good hygiene habits to prevent the outbreak of infectious diseases specifically in this crisis. She remained firm and calm when educating the school management on the importance of providing antiseptic soap to the students for handwashing.

The school management needs to be aware of the potential risk of cross-infection and the need for correct handwashing procedures. Some school management members preferred not to provide hand soap to the students, assuming that they would abuse it. As a gatekeeper in the school, I insisted that hand soap should be made available for the students to wash their hands. (09)

Students and their parents expected school nurses to be a source of information to which they could refer in times of stress during the outbreak of COVID-19. The school nurses, as health care professionals in the school, were perceived to be in a better position to provide updated information on COVID-19 and to deliver in a way students and parents could understand:

Stress from the pandemic crisis contributes to the helplessness of students and their families. The ability of children with ID and their families to comprehend and process information may be impaired. I gave important information to them using simple and non-technical terms. An appropriate and adequate knowledge base and communication skills are necessary. (08)

Schools with a dormitory had no clear guidelines on how to organize the beds of children and adolescents with severe ID. These guidelines were required in order to maintain infection control during the COVID-19 pandemic. As requested by the Education Bureau, school nurses followed published protocols in maintaining a safe distance between each bed. However, school nurses were worried and unsure of how to safeguard vulnerable students with severe ID living in the dormitory. One participant mentioned that she experienced high stress in using a social distancing approach to safeguard students for cross-infection prevention:

Although there are several guidelines issued by the Department of Health and Education Bureau, there is no guideline on the spacing of beds [a social distancing measure] in hostels or schools for children with severe ID. (02)

DISCUSSION

School nurses provide nursing interventions to children and adolescents with ID in a situation that is different from that of their peers who work in teams to provide health treatment in hospital and clinical settings. Although special schools have hired additional nurses to enhance special education services [21], there are still duties for school nurses to perform that are beyond the scope of clinical nursing practice.

Due to irregular schedules with class suspension and resumption during the pandemic, children and adolescents with ID have shown anxiety and emotional changes as a result of irregular training and insufficient support. School nurses in special schools are required to support students with ID and their parents by helping them manage their emotions and mental stress. This helps them maintain their mental well-being during class suspension and stay positive when classes resume [20]. Several studies have demonstrated that a home-based self-quarantine strategy would be effective and beneficial to community health during the outbreak of infectious diseases [22, 23]. School nurses are encouraged to support their students through alternative modes of teaching, such as online video conferencing, digital platforms, and smartphone apps. Moreover, they can rely on these digital tools as alternative channels to communicate with parents. The literature also supports the view that these digital tools offer substantial advantages and are effective communication tools during this global crisis [24]. Both digital technology and home quarantine are valuable for reducing the exposure risk of this vulnerable group of people. These strategies can help relieve the stress and tension of school nurses who worry about ensuring a safe environment for themselves and their students. Reducing face-to-face interaction in school is an additional means of minimizing the spread of infection. The main objective of school nurses is to focus on the velocity of the pandemic and minimize the spread of infection in the school environment. School nurses, as health caregivers in special schools, have followed the various guidelines or recommendations of the Education Bureau and Department of Health, where available, to prepare for this pandemic. The use of different infection prevention and control measures such as educating students on how to maintain proper hand hygiene and wear a mask, is important. In dealing with some students with ID, the participants have encountered different behaviors, such as a reluctance to wear masks. School nurses have to manage students who lacked abilities to maintain hygiene and minimize the spread of infection [6, 25]. Therefore, the participants have experienced stress, powerlessness, and frustration due to worrying about the students' health and their personal health during the COVID-19 crisis [22]. Nevertheless, based on professional knowledge and school nursing experiences, the participants' managed

the behavior of students with ID by being patient and delivering simple, clear, and reliable COVID-19 information to the students and their parents. In this study, school nurses also formed peer groups to provide members with mental health support. These peer groups facilitated the exchange of information about this pandemic among members. Previous studies have suggested that establishing a social network for communication and mutual support can relieve the feelings of helplessness of school nurses [24]. Empowering school nurses would help them care for students with ID and their parents. At the time of writing this paper, an increasing number of health care organizations are mobilizing their resources to help school nurses navigate the COVID-19 pandemic. Training in the form of workshops may provide school nurses with knowledge and techniques that can be readily applied to the care of this unique group of students.

Limitation

A limitation of this study is that descriptions were given by school nurses working in special schools but not mainstream schools. Due to the qualitative nature of this study, the findings are not meant to be generalized to the whole population of school nurses. There is a need for further research that includes the collection of data from school nurses in different mainstream schools when examining how the novel coronavirus pandemic was handled and determining how best to prepare for the future in a school setting.

Implications and Conclusions

The emergence of COVID-19 has an unprecedented impact on the education and health care sectors in Hong Kong, affecting the development of children and adolescents. However, the crisis has brought school nurses closer with their school colleagues than they had ever been via different communication channels, such as Google Meet and Zoom. This study provides first-hand insights into the nurses' experiences of caring for students with special health needs during the COVID-19 pandemic. For many of the participants, a mix of feelings arose from the uncertainty of the trajectory of COVID-19. When preventive measures for infection control were introduced based on the ever-changing epidemiological advice from local health authorities or international scholars, there was often no (or minimal) time for all affected parties (students, their parents, and school colleagues) to sufficiently prepare. Consequently, school nurses experienced a sense of insecurity in fulfilling their expected roles and responsibilities in this pandemic. They faced difficulties in providing care to students, partly because of insufficient knowledge as to what they should do and how to cope with this highly contagious disease. With minimal training on how to control this rapidly evolving

virus, it has been challenging for school nurses to advise on and implement a series of targeted infection control measures in a school setting.

This study found that the role of school nurses during the COVID-19 pandemic was complex and multi-dimensional. It involved not only behavioral tasks, which were only one facet of the daily duties, but also the tasks of assessing and addressing the unique needs of students with ID and their parents, with the goal of safeguarding students' health in a school setting. The nature of the relationship between school nurses and parents led both students and their parents to share their worries and anxiety with the school nurses. These shared feelings strengthened, enriched, and enhanced the experience of school nurses by increasing their sense of empathy and compassion. Children and adolescents were confined to their home due to school closures and social distancing during the COVID-19 pandemic. For children and adolescents with ID, they suffered from having no access to school-provided health services (such as vaccinations and other forms of health care). The participants' process of becoming consciously aware of their own feelings when providing care could enhance the mutual understanding between students and nurses. This would be useful in determining necessary nursing actions in a school setting. When school nurses are aware of the feelings and expectations of their students, this could allow them to focus on their personal development and provide effective care. In the

process of caring for students with ID, the participants recognized that they were motivated by a deeper level of caring and worked toward creating an environment in which care toward this unique group of students could be adequately provided.

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Author Contributions

Ka-Huen Yip: Writing, original draft and reviewing, conceptualization, methodology, supervision. Yuk-Chiu Yip: Writing, editing, data analysis, validation, visualization, investigation. Wai-King Tsui: Writing, reviewing, investigation, data analysis, validation.

Conflict of Interest

There are no conflicts of interest for all authors in this study.

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Ethical Consideration

The manuscript submitted to *Advances in Nursing & Midwifery* and it is not published in no other journal.

Supplementary 1. Identified Categories and Their Subcategories

Categories
Unpredictable and uncertain situation of COVID-19
Concerns about health of school members
Concerns about health personal health
Extreme emotions experienced while caring for students during the outbreak of COVID-19
Maintaining professional morale
Striving for quality of care in school setting
Inevitability of committing nursing errors during the outbreak of COVID-19
Little things that count
Providing information

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