“To be or not to be in the ward”: The impact of COVID-19 on the role of hospital-based clinical pharmacists—A qualitative study

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Abstract
Introduction: The coronavirus disease 2019 (COVID-19) pandemic has significantly affected health care systems around the world. In many hospitals and health care facilities, services and health care workers have been reorganized and restructured to meet the demands of the pandemic. The impact of the pandemic on hospital-based clinical pharmacists and their ability to deliver pharmaceutical care is currently unknown.

Objective: This study aimed to explore the impact of the COVID-19 pandemic on hospital-based clinical pharmacists working in Malaysia and the implications on how clinical pharmacy is perceived as a health care service.

Methods: A qualitative study was designed to meet the research objectives. Nineteen hospital-based clinical pharmacists consented and participated in one-on-one, semi-structured interviews. The interviews were transcribed and analyzed using an iterative thematic analysis approach.

Results: The experiences and views of the participants were reported. Three main themes were developed: “Reassignment and other changes in clinical pharmacist roles,” “Adapting clinical pharmacy services to COVID-19,” and “The need for clinical pharmacists in the ward.” The findings indicate that in many cases, clinical pharmacy services were fully or partially withdrawn from the ward to reduce the risk of infection and to conserve the usage of personal protective equipment. Despite this, clinical pharmacists continued to support patient care in hospitals through the use of technology. The withdrawal of clinical pharmacy services, however, raises concern that the role of clinical pharmacists is still poorly recognized.

Conclusion: Clinical pharmacists in hospitals continue to support patient care despite the disruption caused by the COVID-19 pandemic. Greater support and recognition of their role is required in order to empower and enhance their ability to deliver pharmaceutical care.

Keywords
clinical pharmacists, coronavirus, hospital pharmacy services

Around the world, health care systems have been significantly impacted by the coronavirus disease 2019 (COVID-19) pandemic. Health care facilities have been forced to restructure their services and systems in order to prioritize infection control and manage COVID-19 patients. There have been reports of health care workers being reassigned to areas deemed more essential,
as well as the cancellation of “elective” treatments during this pandemic.2,3

The role of pharmacists in preserving the medication supply chain and in facilitating the access to new or previously unused medicines has been rightfully deemed as essential. As such, pharmacists around the world have remained on the front lines of the pandemic to ensure that medicines and other medical supplies remain available to patients and health care workers.4,5

But what of clinical pharmacy? Clinical pharmacy is defined by the American College of Clinical Pharmacy (ACCP) as, “a health science discipline in which pharmacists provide patient care that optimizes medication therapy and promotes health, wellness, and disease prevention.”6 There is a large body of evidence which demonstrates the benefits of clinical pharmacy services and the role of clinical pharmacists as an essential part of the health care team.7-11 Despite the evidence, however, the implementation, funding, and staffing of clinical pharmacy services continues to face numerous challenges.12-14 As such, clinical pharmacy services can be particularly sensitive to changes that affect the allocation of resources within the health care facility.

While there has been some discussion about the roles of clinical pharmacists during the pandemic, it is unknown how the pandemic has affected clinical pharmacy services in hospitals.15-18 There is concern that the reprioritization of health care resources, as well as limited supplies of essential items such as personal protective equipment (PPE), may result in clinical pharmacy services in hospitals being fully or partially withdrawn, and clinical pharmacists being reassigned to supply-focused roles.19

Malaysia is a middle-income country in Southeast Asia. Health care is provided by both a taxpayer-funded public health care system as well as a free-market private health care sector. Clinical pharmacy services have been implemented since the 1990s, although mainly in public hospitals.20 The implementation of clinical pharmacy services has not been uniform as decisions on resource allocation for the development of clinical pharmacy are often left to the discretion of individual facilities. Clinical pharmacists in Malaysia are pharmacists who have been assigned to work in the hospital wards, where they provide pharmaceutical care to patients and support the health care team with information and guidance for the effective use of medicines. They usually have little to no role in the inpatient or outpatient supply of medicines, unlike other pharmacists working in the hospital. This study aims to explore the impact of the COVID-19 pandemic on hospital-based clinical pharmacists in Malaysia and the implications on how clinical pharmacy is perceived as a health care service.

1 | METHODS

1.1 | Sample and data collection

Potential participants were identified through a recruitment call via social media, email contact via the researcher’s professional network, and through the use of snowballing, where participants referred the researcher to other potential participants. Potential participants were provided with explanatory statements that explained the details of the study. Those who agreed to participate in the study signed consent forms and the interviews were arranged. The inclusion criteria for participants in this study were: (a) pharmacists registered to practice in Malaysia, and (b) were presently or immediately prior to the COVID-19 pandemic, working as hospital-based clinical pharmacists.

All the participants took part in one-on-one, semi-structured interviews. Each interview was carried out using an interview topic guide that allowed for participants and the researcher to explore subjects in varying length and detail. The topics included the impact of the COVID-19 pandemic on the role of clinical pharmacists, the delivery of clinical pharmacy services, and the perception of clinical pharmacy as an essential health care service. All interviews were transcribed verbatim.

This study received ethical approval from the Monash University Human Research Ethics Committee (Project ID: 24390).

1.2 | Analysis

An iterative thematic analytic approach was used. A critical realist paradigm was adopted which assumes that there is an independent reality and each individual’s interpretation of that reality is influenced by their experiences, culture, language, and context.

All transcripts of the interviews were coded by the researcher. Throughout the coding process, implicit views were taken into consideration and analytical memos were made to complement the process. Constant comparative techniques were employed throughout the entire coding process for the development of themes that described impact of the COVID-19 pandemic on clinical pharmacy services and the roles of clinical pharmacists.

2 | RESULTS

2.1 | Sample

Nineteen participants from 15 different hospitals were interviewed for this study. The participant characteristics are summarized in Table 1.

2.2 | Themes developed

The coding and subsequent analysis of the findings of this study led to the development of three main themes: “Reassignment and other changes in clinical pharmacist roles,” “Adapting clinical pharmacy services to COVID-19,” and “The need for clinical pharmacists in the ward.”

2.2.1 | Theme: Reassignment and other changes in clinical pharmacist roles

A common change experienced by the participants was reassignment from their clinical pharmacist role in the ward to other roles such as medication supply in the inpatient or outpatient pharmacy, or the
The participants remained committed to providing pharmaceutical care, despite being excluded from the wards. Some of the participants expressed that they felt obliged to continue providing support to the patient care team they usually worked with as well as an obligation to provide care to the patients in “their ward.” One participant described, “I’ve been working with this team of doctors and nurses as well as the patients in this ward for years. Even though I cannot be in the ward, the patients there are still somehow my patients. And my doctors and nurses will still call me for help or information on how to manage the patients, so I will still help them no matter what. No one can stop me from providing patient care to my patients (RPH18, Area of Practice—General Medicine).”

In order to continue providing pharmaceutical care, adaptations were required. For example, the participants maintained contact via phone calls or text messages with the patient care team in the ward in order to provide drug information. This was also supplemented with the remote screening of medication charts to identify medication-related issues. Some participants also arranged for video-calls with physicians to discuss the management of complex patient cases.

Where the participants were not allowed to provide bedside counseling to patients in the ward, they adapted by filming videos of themselves giving instructions on how to use medical devices. They also made use of video calls with the patients to provide counseling on medication adherence and proper use of medicines.

For the participants who were still able to carry out clinical activities in the ward, changes included the use of PPE, additional infection control practices, as well as distancing from patients and health care workers where possible. The use of PPE and the practice of distancing from patients often made it challenging to interview patients. Video recordings as well as communication via text messaging were sometimes used to complement these activities. One participant wrote, “Personally, when I do MDI [metered dose inhaler] counseling, I will demonstrate it myself first, but with extra PPE I was not able to do so. But we improvise, so I recorded a video of me demonstrating and showed it to my patients during my counseling sessions (RPH06, Area of Practice—General Medicine).”

### 2.2.3 Theme: The need for clinical pharmacists in the ward

There were differing opinions among the participants regarding the need to be in the ward during the pandemic. Some of the participants argued that it was important for them to be there. These participants mentioned that being away from the patients in the ward decreased their effectiveness in providing both pharmaceutical care and preventing medication errors. This, to them, was doubly important during the pandemic as they had to manage complex cases using constantly changing guidelines and unfamiliar drugs. For some of them, the pandemic represented the opportunity to live up to the claim that clinical pharmacists were an essential part of the health care team. One participant responded, “If we say that clinical pharmacy service is essential, but then when a pandemic happens, we back off from the wards, it gives the impression that we are not that important anyway. So that is why I kept telling myself, ‘This is not the time for us to back off.’

### 2.2.2 Theme: Adapting clinical pharmacy services to COVID-19

The production of personal protective equipment (PPE). Common reasons given to the participants for their reassignment included reducing the usage of PPE, reducing their risk of being infected, and to prevent the spread of infection throughout the pharmacy which risked disrupting the medication supply chain. For example, one participant explained, “Some of our pharmacy staff became ‘persons under investigation’ as they had close contacts with patients who were COVID-19 positive and that led to many of us being quarantined at home as we were in close contact with them (RPH04, Area of Practice—Endocrinology).”

Study participants who were not reassigned, instead experienced changes in their job scope. These changes included having medicine supply and PPE production duties added on to their role, resulting in a reduction of the time spent in the ward providing pharmaceutical care. Some participants were also prevented from performing activities such as participating on ward rounds, interviewing patients, or providing bedside counseling. One participant responded, “I will only get to go up to the ward for a few hours in the morning. After that, I have to head down to the manufacturing department to either help in the manufacturing of PPE, or to help them compound and manufacture hand sanitizers (RPH13, Area of Practice—Respiratory Medicine).”

While many of the participants were reassigned or restricted in their roles, a few participants instead found their roles intensified. Some participants were tasked with providing clinical pharmacy services to COVID-19 patients in critical care units where there was none previously, in addition to their usual roles. Other participants joined the hospital’s infectious diseases team which was previously physician-only, in order to provide expert opinion and guidance on the use of potential treatments for COVID-19. One participant explained, “The infectious disease team called up my boss and said that they needed me to join their team and help them with patients outside of the ICU [intensive care unit] as well, because they needed a pharmacist who could provide them with drug information and was familiar with the management guidelines to discuss the complex cases (RPH14, Area of Practice—Critical Care).”

### Table 1 Demographics of study participants

| Gender       | Years of practice | Area of specialty practice |
|--------------|-------------------|---------------------------|
| Female: 57.9% | 5 years or less: 21% | Respiratory medicine: n = 3 |
| (n = 11)     | (n = 4)           | Hematology: n = 1         |
| Male: 42.1%  | 5 to 9 years: 47.4% | Orthopedics: n = 1        |
| (n = 8)      | (n = 9)           | Endocrinology: n = 1      |
|              | 10 years or more: | General medicine: n = 9   |
|              | 31.6% (n = 6)     | Critical care: n = 4      |

| Area of specialty | Number |
|-------------------|--------|
| Critical care:     | n = 4  |
| Respiratory medicine: | n = 3 |
| Hematology:        | n = 1  |
| Orthopedics:       | n = 1  |
| Endocrinology:     | n = 1  |
| General medicine:  | n = 9  |

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We should stay in the wards and provide our usual service." Only then, will we gain the recognition we need. But at a time when you are needed the most and you back away, then the doctors will feel that you are not important anymore. So, this is the time that we show up and work with the doctors and the nurses and tell them that, "Hey, we are together as a team (RPH10, Area of Practice—Critical Care)."

Other participants felt that it was reasonable during this pandemic to be excluded from the ward and the patient's bedside. Three common reasons were given. The first was that the adaptation and remote provision of clinical services, while not perfect, was sufficient to meet the needs of the patients' and the health care team. The second reason was the potential risk of infection. The participants suggested that it was important to prevent any infections among the pharmacists as it would lead to the quarantine of the pharmacy and disrupt the pharmacy as it would lead to the quarantine of the pharmacy (RPH08, Area of Practice—Critical Care). The third reason was the conservation of PPE. Some participants commented that it was explained to them that their presence in the ward would "increase the usage of PPE," "be a waste of the PPE available," and that "PPE should be reserved for essential health care workers." When asked about how this reflected on the importance of clinical pharmacists in a hospital, most of the participants felt that clinical pharmacists were essential, but that perception was not shared by the hospital administration. One participant expressed, "In my opinion, it is essential for clinical pharmacists to be in the wards. However, pharmacists should be recognized as essential front line health care workers. Unfortunately, hospital administrators tend to think of pharmacists as 'support staff,' as we supposedly don't touch patients and so they don't give us enough PPE and they don't let us into the wards (RPH17, Area of Practice—General Medicine)."

A few participants, however, shared their belief that clinical pharmacists play only a supporting role, and because that support could be provided remotely, PPE could be conserved for other front line health care workers. One participant wrote, "I actually agree with (redeployment) because as I mentioned earlier the clinical pharmacists in government hospital service are support staff. So, we will try to support the main clinical service as much as possible. So, I am okay with the redeployment, yeah (RPH09, Area of Practice—General Medicine)."

The participants, however, unanimously agreed that if given the choice along with adequate PPE, they would prefer to be in the ward and by the patients' bedside. The reasons for this included their preference for their usual clinical role over supply-focused roles, and the feeling that their ability to provide pharmaceutical care was less effective. One participant explained, "Personally, I feel it is lacking in that we can't provide bedside counseling when a patient needs it. But we did try to come out with guidelines and possible alternatives, such as if COVID-19 patients are prescribed with inhalers but have never used it before, we will supply them with a spacer and teach the nurses how to use it (RPH08, Area of Practice—Critical Care)."

The participants also felt that the continual demand for their services by other members of the health care team emphasized how important clinical pharmacists were. Several participants shared that the demand for their services increased during the COVID-19 pandemic due to the increased use of unfamiliar drugs in complex patient cases. One participant described, "The nurses are not used to these drugs, neither are the doctors. The doctors need to discuss with us frequently regarding dosing and so on. We have consultants come up to us asking tough questions sometimes such as, 'Why are the French using 600 mg of hydroxychloroquine?' or 'Which is better, chloroquine or hydroxychloroquine?' or 'How do statins interact with these antivirals, exactly?' (RPH01, Area of Practice—Respiratory Medicine)."

3 | DISCUSSION

The findings of this study indicate that the COVID-19 pandemic has disrupted the delivery of pharmaceutical care in the ward by clinical pharmacists. The disruption experienced is partly due to the challenges posed by heightened infection control practices. These challenges have also been reported by pharmacists in other countries. Nevertheless, pharmacists, both in this study and elsewhere, have made creative use of technology in order to deliver health information that is needed for the effective use of medicines as well as medication adherence.16,18,21

A major source of disruption, however, appears to be the institutional directives that either fully or partially withdrew clinical pharmacy services. While the intention may be to keep clinical pharmacists safe, it raises the uncomfortable question of whether clinical pharmacists and the work that they do are essential. This study does not provide the answer, but instead raises some questions: Where clinical pharmacists are not allowed patient contact in the wards, or not provided adequate PPE because both of these have been restricted to "essential" staff, are they then considered "optional"? Similarly, when a service can be withdrawn during a time of crisis, is it still essential?

It is striking that in the current literature on COVID-19, little has been said about the role of clinical pharmacists in providing patient care as compared with their role in providing drug information, developing formularies, and preserving the medication supply chain.16,18,22,23 There has, instead, been more reported about the provision of pharmaceutical care by community pharmacists.5,21,23,24 One wonders then, whether clinical pharmacists have been silently withdrawn in many hospitals.

This is not to say that clinical pharmacists are not doing their best to provide pharmaceutical care. Certainly, the responses in this study indicate that they continue to do so in innovative ways, despite being directed to withdraw. Their contributions however are diminished by the lack of awareness and recognition of their role, especially among the public, politicians, and hospital administrators.17 That their role is essential should not be in dispute, as evidenced by the continual demand for clinical pharmacy services from other health care workers.

Onozato and colleagues highlighted the importance of both administrative and political support in the implementation of clinical pharmacy services within health care institutions.25 Unfortunately, clinical pharmacists seem to be trapped in a catch-22 situation: While individual clinical pharmacists can and want to deliver pharmaceutical care to patients, this lack of support hampers their ability to do so. On
the other hand, without being able to demonstrate the need for their presence in direct patient care, clinical pharmacists lose the opportunity to gain said support. As such, much work needs to be done to help clinical pharmacists gain the support that they need.

There are a few steps that may help clinical pharmacists address these problems. The first is to document and showcase the innovations developed during this pandemic. These innovations can be used as evidence to raise awareness and demonstrate the role of clinical pharmacists to the public and other stakeholders. Secondly, an evaluation of clinical pharmacy services provided during the pandemic that incorporates feedback from other members of the health care team should be conducted. An in-depth evaluation will be necessary for pharmacists themselves to identify which of their clinical activities are essential and must be done at the bedside, and which activities can actually be done at a high-level through the use of technology. The feedback from other members of the patient care team can further triangulate these points, as well as highlight the demand for clinical pharmacy services. This can be used to prevent any withdrawal of clinical pharmacy services and to justify greater support for clinical pharmacists in the ward.

4 | LIMITATIONS

This study had some limitations. The number of participants in this study was small and restricts the extent to which the findings reported in this study can be generalized. The participants in this study also self-reported their experiences which may result in the overrepresentation of certain findings and introduce potential bias in the data. This study only interviewed clinical pharmacists. The perceptions of other health care workers were not represented. As such, future studies should attempt to incorporate input from hospital administrators and other health care workers. The participants also represent a self-selected sample which may be biased. The study was also conducted by a single researcher which may have led to some interpretation of the data being affected by the researcher’s own experience. Where clarification was needed, however, the interpretation of the data was checked with the participants.

Finally, the qualitative nature of this study meant that the significance or prominence of specific findings could not be determined in any meaningful way. It is worth bearing in mind, however, that this study was designed to elicit and highlight the wide variety of experiences and views of clinical pharmacists in Malaysia. Further research investigating the relative prominence of the experiences and views highlighted in this study is recommended.

5 | CONCLUSION

The COVID-19 pandemic has disrupted clinical pharmacists and their ability to deliver pharmaceutical care. While clinical pharmacists have worked to continue delivering support to the health care team, their ability to deliver pharmaceutical care to hospitalized patients has been impaired in varying degrees. Greater support and recognition of the role of clinical pharmacists is required to empower and enhance their ability to deliver optimum patient care.

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CONFLICT OF INTEREST

The author declares no conflicts of interest.

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