

Canadian Hospital Pharmacists' Perceptions of Workplace Preparedness and Personal Well-Being during the COVID-19 Pandemic

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ABSTRACT

Background: Little is known about hospital pharmacists' experiences during the COVID-19 pandemic, as studies to date have focused on community pharmacy practices.

Objectives: To determine hospital pharmacists' perceptions of their workplace preparedness for the COVID-19 pandemic and to measure their mental well-being with the Warwick-Edinburgh Mental Well-being Scale (WEMWBS).

Methods: Pharmacists working in Canadian hospital inpatient settings during the COVID-19 pandemic were invited to participate in a 2-part online survey. Part A was a 46-item survey containing statements related to directions and support from leadership, personal protective equipment practices, work environment, and emotions. Part B assessed respondents' mental well-being using the validated 14-item WEMWBS. Responses to both parts of the survey were based on Likert scales. The survey was open from July to September 2020. Descriptive analyses were applied.

Results: A total of 432 hospital pharmacists consented to participate in the study. Most respondents were women (337/432, 78%), and most were 25 to 44 years old (293/432, 68%). Most respondents were confident that their workplace and pharmacy department were effectively managing patient demand (314/389, 81%) and the pandemic more generally (263/394, 67%). They also felt that their workplace teams were working well together (314/386, 81%). Interestingly, 22% (86/391) of the respondents did not agree that they had received training for COVID-19 infection prevention and control practices. The mean WEMWBS score was 48.9 (standard deviation 8.6), which indicated average mental well-being.

Conclusions: After the initial wave of the COVID-19 pandemic, respondents perceived their hospitals and departments as being able to manage the pandemic and reported average mental well-being. Ensuring that all hospital pharmacists receive training for effective COVID-19 infection prevention and control practices is crucial. How their perceptions and well-being have changed since the time of the survey is unknown.

Keywords: hospital pharmacists, COVID-19, coronavirus disease 2019, mental well-being, workplace preparedness

Note: This article contains supplementary material (Supplement 1), available at <https://www.cjhp-online.ca/index.php/cjhp/issue/view/211>

RÉSUMÉ

Contexte : On sait peu de choses sur les expériences des pharmaciens d'hôpitaux pendant la pandémie de COVID-19, car les études à ce jour se sont concentrées sur les pratiques de la pharmacie communautaire.

Objectifs : Cerner les perceptions des pharmaciens d'hôpitaux quant à la préparation de leur lieu de travail à la pandémie de COVID-19 et mesurer leur bien-être mental à l'aide de l'échelle de bien-être mental Warwick-Edinburgh (WEMWBS).

Méthodes : Les pharmaciens qui travaillaient en milieu hospitalier canadien pendant la pandémie de COVID-19 ont été invités à participer à un sondage en ligne en deux volets. Le volet A consistait en une enquête portant sur 46 éléments contenant des déclarations liées aux orientations et au soutien de la direction, aux pratiques en matière d'équipement de protection individuelle, à l'environnement de travail et aux émotions. Le volet B a quant à lui permis d'évaluer le bien-être mental des répondants à l'aide de l'échelle WEMWBS validée à 14 points. Les réponses aux deux volets de l'enquête se basaient sur des échelles de Likert. Le sondage était ouvert de juillet à septembre 2020. Des analyses descriptives ont été appliquées.

Résultats : Au total, 432 pharmaciens d'hôpitaux ont accepté de participer à l'étude. La plupart des répondants étaient des femmes (337/432, 78 %), et la plupart avaient entre 25 et 44 ans (293/432, 68 %). La plupart des répondants étaient convaincus que leur lieu de travail et leur service de pharmacie géraient efficacement la demande des patients (314/389, 81 %) et la pandémie en général (263/394, 67 %). Ils ont aussi estimé que leurs équipes de travail travaillaient bien ensemble (314/386, 81 %). Fait intéressant : 22 % des répondants (86/391) convenaient ne pas avoir reçu de formation sur les pratiques de prévention et de contrôle des infections à la COVID-19. Le score moyen sur l'échelle WEMWBS était de 48,9 (écart type 8,6), ce qui indique un bien-être mental moyen.

Conclusions : Après la première vague de la pandémie de COVID-19, les répondants ont perçu leurs hôpitaux et leurs services comme étant capables de gérer la pandémie et ont déclaré un bien-être mental moyen. Veiller à ce que tous les pharmaciens d'hôpitaux reçoivent une formation sur les pratiques efficaces de prévention et de contrôle des infections à la COVID-19 est crucial. On ne sait pas comment leurs perceptions et leur bien-être ont changé depuis le moment de l'enquête.

Mots-clés : pharmaciens d'hôpitaux, COVID-19, maladie à coronavirus 2019, bien-être mental, préparation au travail

INTRODUCTION

Health care workers, including pharmacists, are vital resources during a pandemic. Their health and well-being are crucial for continuous and safe patient care. To date, studies evaluating pharmacists' experiences during the COVID-19 pandemic have predominantly focused on community pharmacy practice settings and mental health concerns such as anxiety, depression, and burnout.¹⁻⁷ A recent study of predominantly hospital pharmacists in the United States found that more than 50% of respondents experienced moderate or high likelihood of burnout and secondary traumatic stress while working during the COVID-19 pandemic.¹ Another survey, involving Australian pharmacists, found greater burnout scores during the pandemic, especially among men.² The authors of both studies recommended that comprehensive support should be made available for pharmacists, to mitigate any long-term consequences of burnout, with examples of such support including crisis management training, increased staffing, and implementation of self-care practices to promote psychological wellness. Furthermore, to date only 1 study has assessed pharmacists' knowledge, perceptions, and attitudes during the COVID-19 pandemic.⁸ It found that, in general, pharmacists had a good understanding of the disease and its transmission, but the study was designed to specifically evaluate how the media influenced this understanding. No other information is available on how pharmacists informed themselves about the disease and its evolving treatment strategies. The challenges of the pandemic and its impact on hospital pharmacists may be different in Canada than elsewhere; therefore, exploring Canadian hospital pharmacists' perceptions of their workplace, mental well-being, and professional obligations during the pandemic is important. The aim of this study was to describe the perceptions of Canadian hospital pharmacists in relation to their workplace preparedness and personal well-being during the COVID-19 pandemic.

The study consisted of 2 parts. The primary objective for Part A was to determine hospital pharmacists' perceptions of their workplace preparedness for the COVID-19 pandemic. The primary objective for Part B was to measure mental well-being with the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The secondary objective was to compare mean WEMWBS scores in relation to different regions of Canada, sex categories, age, practice roles, and provision of direct care to COVID-19 patients.

METHODS

Study Design

This was a voluntary cross-sectional study of hospital pharmacists across Canada. All participants provided informed consent. The study was approved by the Fraser Health Department of Ethics and Research.

Study Population

Hospital pharmacists working in a Canadian hospital during the COVID-19 pandemic were eligible to participate. Pharmacists who were not practising, who were working in an outpatient setting, or who had not worked during the COVID-19 pandemic were excluded. Participants were recruited using nonprobability snowball sampling by connecting with hospital pharmacists through social networking applications and professional networks across Canada.

Study Instrument

The self-administered online survey was created and conducted using Qualtrics software (<https://www.qualtrics.com>) and was available in both English and French. The participants were invited to respond to an anonymous 2-part questionnaire that was available from July 21 to September 11, 2020. The survey was programmed to monitor Internet Protocol addresses to prevent multiple entries from the same address.

Part A of the survey sought pharmacists' perceptions of their workplace preparedness. This 46-item validated survey went through 2 stages of development. During the first phase, the team searched out relevant questionnaires from the literature, and created new questions; the draft survey was then piloted by the investigators. Permission was obtained from the World Health Organization (WHO) to adapt and include questions from its research protocol entitled "Perceptions of Health Workers Regarding Local Infection Prevention and Control Procedures for COVID-19".⁹ The survey questions were revised to reflect pilot feedback, and revised versions were then tested for internal validity with 3 pharmacists and 1 nonpharmacist researcher to ensure understandability of content, readability, clarity, and acceptability. The survey included a variety of multiple-choice, yes/no/unsure, and 3-point Likert-scale questions (with options of agree, neither agree nor disagree, disagree) and contained 8 main sections: demographic characteristics (10 items); experience during COVID-19 or previous pandemics (5 items); directions, plans, and support from leadership (6 items); service demand and delivery (8 items); personal protective equipment (PPE) practices (2 items); beliefs about capabilities, social/professional role, and teamwork/work environment (7 items); educational resources (2 items); and emotions (6 items).

Participants were required to complete Part A of the survey before starting Part B, which assessed mental well-being using the 14-item WEMWBS.¹⁰ The WEMWBS has been developed and extensively validated in the general population of the United Kingdom, as well as various international populations, including health care professionals and French-speaking cohorts.^{11,12} The WEMWBS has good construct validity, as it demonstrates moderately high correlations with other scales that measure aspects of mental health, general health, and emotional intelligence.¹⁰ The 14 statements of the WEMWBS assessed eudaimonic

(focused on psychological functioning and a sense of meaning and purpose in life) and hedonic (focused on happiness, contentment, and life satisfaction) constructs of mental well-being in the previous 2 weeks.¹⁰ Responses were recorded on a 5-point Likert scale ranging 1, for “none of the time”, to 5, for “all the time”. The total score was calculated by summing the 14 individual scores for each statement. The complete list of the English survey questions is available in Supplement 1 (available at <https://www.cjhp-online.ca/index.php/cjhp/issue/view/211>); the French survey questions are available by request to the corresponding author.

Statistical Analysis

Descriptive statistics were used to calculate frequencies and percentages for the primary objective of Part A. For Part B, cut points defining low, average, and high mental well-being were calculated by determining 1 standard deviation (SD) above and below the mean, as outlined by the WEMWBS analysis guidelines.¹³ One-way analysis of variance (ANOVA) and the Student *t* test were used for analyzing the secondary outcomes, as appropriate. For Part A, respondents who did not answer every question were included in the analysis for the questions to which they responded. For each question, the denominator for calculating percentages was adjusted to reflect the number of respondents to the particular question. For Part B, respondents who did not answer every question were excluded, because the effect of using estimations for the WEMWBS scores has not been tested.¹⁰

RESULTS

Demographic Characteristics

A total of 432 inpatient hospital pharmacists provided responses to some or all questions in Part A of the survey, for an estimated response rate of about 6.5% (based on data available from the National Association of Pharmacy Regulatory Authorities¹⁴). A total of 377 inpatient hospital pharmacists provided complete responses in Part B, for an estimated response rate of about 5.7%. Complete data for demographic characteristics are presented in Table 1. For both Part A and Part B, respondents were predominantly women, and most respondents were 25–44 years of age. Although most respondents worked in a clinical practice setting with at least 10 years of pharmacy practice experience, only about half had provided direct care to COVID-19 patients. Overall, the majority of respondents were from the Prairie provinces (Alberta, Saskatchewan, Manitoba), followed by the west coast (British Columbia) and central Canada (Ontario, Quebec).

Pharmacists’ Perceptions of Workplace Preparedness

The following 6 sections present findings from Part A of the questionnaire. Complete results from Part A are presented in Figure 1, Figure 2, Table 2, and Table 3.

Directions, Plans, and Support from Leadership

Two-thirds of respondents (67%) agreed that they felt confident that their pharmacy department had been managing the pandemic effectively (Figure 1). Furthermore, almost two-thirds of respondents (62%–66%) agreed that clear guidelines and policies had been implemented to manage medication shortages and medication supply procedures and to inform pharmacists of how to practise in a safe and effective way. Overall, about two-thirds of respondents (66%–69%) felt supported by their leadership throughout the pandemic and were able to openly express any questions or concerns.

TABLE 1. Baseline Characteristics of Survey Respondents

Characteristic	Survey Part; No. (%) of Respondents	
	Part A (n = 432) ^a	Part B (n = 377) ^b
Age (years)		
18–24	4 (1)	4 (1)
25–44	293 (68)	256 (68)
45–54	82 (19)	69 (18)
≥ 55	53 (12)	48 (13)
Sex, female	337 (78)	296 (79)
Education		
Residency Year 1/Year 2	121 (28)	108 (29)
BSc/Entry-to-Practice PharmD	177 (41)	154 (41)
Master’s	55 (13)	47 (12)
PharmD, PhD	78 (18)	67 (18)
Overseas equivalent	1 (< 1)	1 (< 1)
Time in practice (years)		
0–4	82 (19)	73 (19)
5–9	78 (18)	67 (18)
10–19	133 (31)	117 (31)
≥ 20	139 (32)	120 (32)
Location ^c		
West coast	126 (29)	108 (29)
Prairie provinces	187 (43)	167 (44)
Central Canada	104 (24)	88 (23)
Atlantic provinces	12 (3)	12 (3)
Northern region	3 (1)	2 (1)
Current practice setting		
Clinical	323 (75)	290 (77)
Distribution or other nonclinical	36 (8)	29 (8)
Management or leadership	73 (17)	58 (15)
Provided direct care to COVID-19 patients	203 (47)	187 (50)

^aParticipants could drop out at any time in Part A.

^bOnly participants who provided complete responses to Part B were included in the analysis.

^cWest coast = British Columbia; Prairie provinces = Alberta, Saskatchewan, Manitoba; central Canada = Ontario, Quebec; Atlantic provinces = New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador; northern region = Northwest Territories, Nunavut, Yukon.

Service Demand and Delivery

When asked about managing patient demand, 81% of respondents felt confident that their workplace was doing so effectively (Figure 1). This value dropped to 64% when respondents were asked if they felt their workplace would be able to continue managing patient demand. About one-quarter of respondents (26%) reported not being able to complete their usual role within regular working hours, whereas 19% indicated there was insufficient staffing to complete the work required for usual pharmacy services.

PPE Practices

Only about two-thirds of respondents (59%–64%) agreed when asked if they had received training for COVID-19

infection prevention and control practices, and similarly when asked if they were confident in donning and doffing PPE.

Capabilities, Social/Professional Role, and Teamwork/Work Environment Beliefs

Almost all respondents (92%) agreed it was their professional responsibility to care for COVID-19 patients (Figure 1). More than three-quarters of respondents (84%) perceived their team members to be under significant stress. Nonetheless, most respondents (81%–84%) believed their teams had been working well and respectfully together. Just over half of all respondents (56%) felt they were able to provide the best patient care during the pandemic.



FIGURE 1 (PART 1 OF 2). Pharmacists' perceptions, based on responses to Likert-type questions. Percentages are based on the number of respondents for each question, which ranged from 383 to 394. SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2.

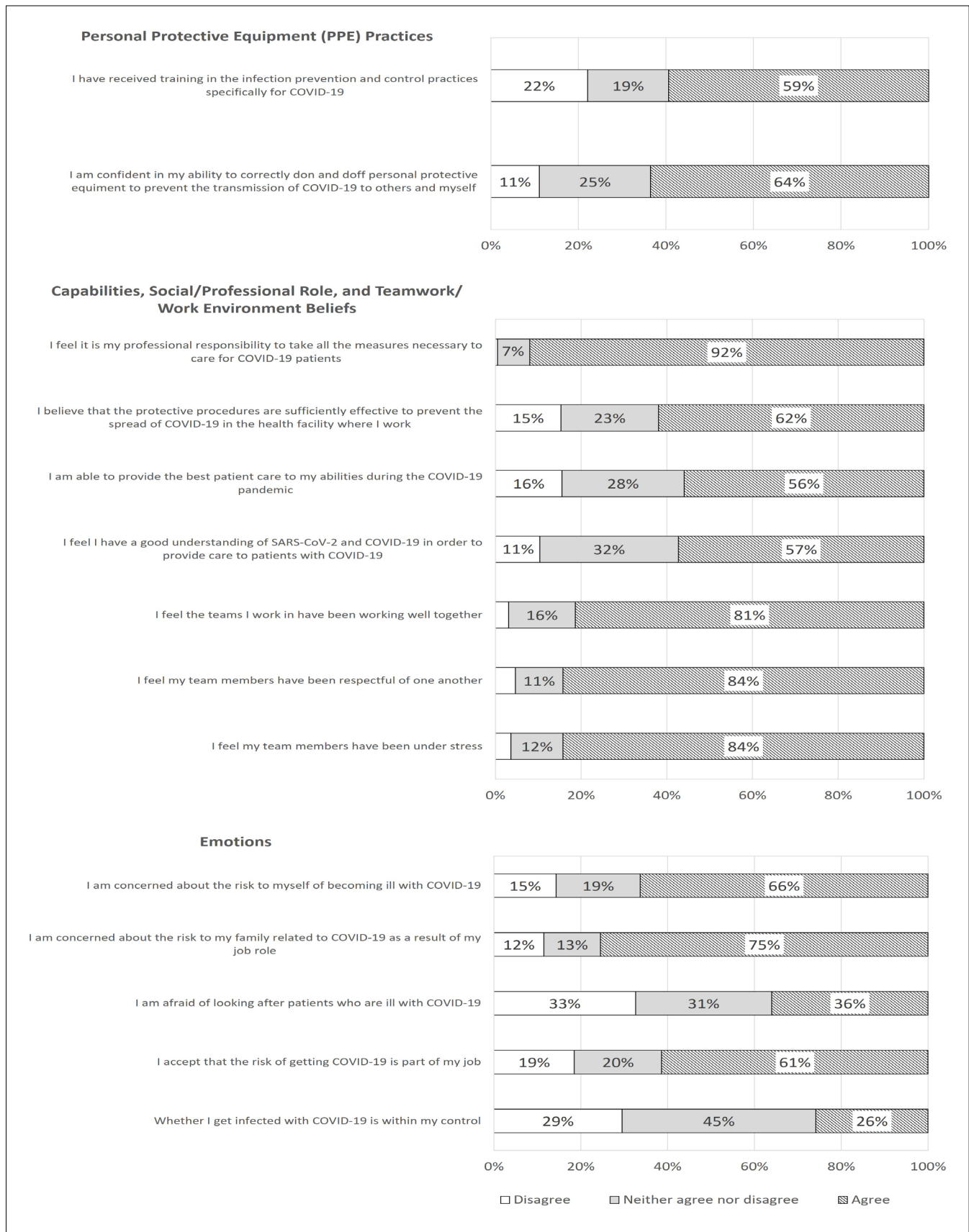


FIGURE 1 (PART 2 OF 2). Pharmacists' perceptions, based on responses to Likert-type questions. Percentages are based on the number of respondents for each question, which ranged from 383 to 394. SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2.

Services Provided during the COVID-19 Pandemic

More than three-quarters of respondents (78%) continued to identify and resolve medication-related problems during the pandemic (Table 2). Furthermore, medication reconciliation was still provided by two-thirds (67%) of respondents, while discharge counselling and other services were provided by 57%.

Resources Accessed

Although 75% of respondents reported accessing resources to help understand and manage patients with COVID-19, only about half (57%) felt they had a good understanding of SARS-CoV-2 and COVID-19. Resources related to COVID-19 that were utilized by survey respondents are listed in Table 3. Only 14% of respondents reported accessing mental health resources or services for their own support (Figure 2).

Emotions

At least two-thirds of respondents (66%–75%) expressed concerns about contracting COVID-19 themselves and

passing it along to their families (Figure 1). Although 61% of respondents accepted that the risk of getting infected was part of their job, more than one-third (36%) reported they were afraid to care for COVID-19 patients.

Warwick-Edinburgh Mental Well-being Scale

The mean WEMWBS score, based on data supplied in Part B of the survey questionnaire, was 48.9 (standard deviation 8.6) (Figure 3), which suggests average mental well-being. For this cohort, the cut points for low, average, and high mental well-being were determined to be 40 or below, 41 to 57, and 58 or above, respectively. When stratified by regions of Canada, hospital pharmacist respondents from the west coast, the Prairie provinces, and central Canada all showed average well-being, with no statistically significant differences ($F_{2,360} = 2.05, p = 0.13$) (Table 4); the sample sizes from the Atlantic and Northern regions were too small to be included in this analysis. However, respondents between the ages of 18 and 44 years had significantly lower scores than respondents aged 45 years or older; similarly, respondents who provided direct care to COVID-19

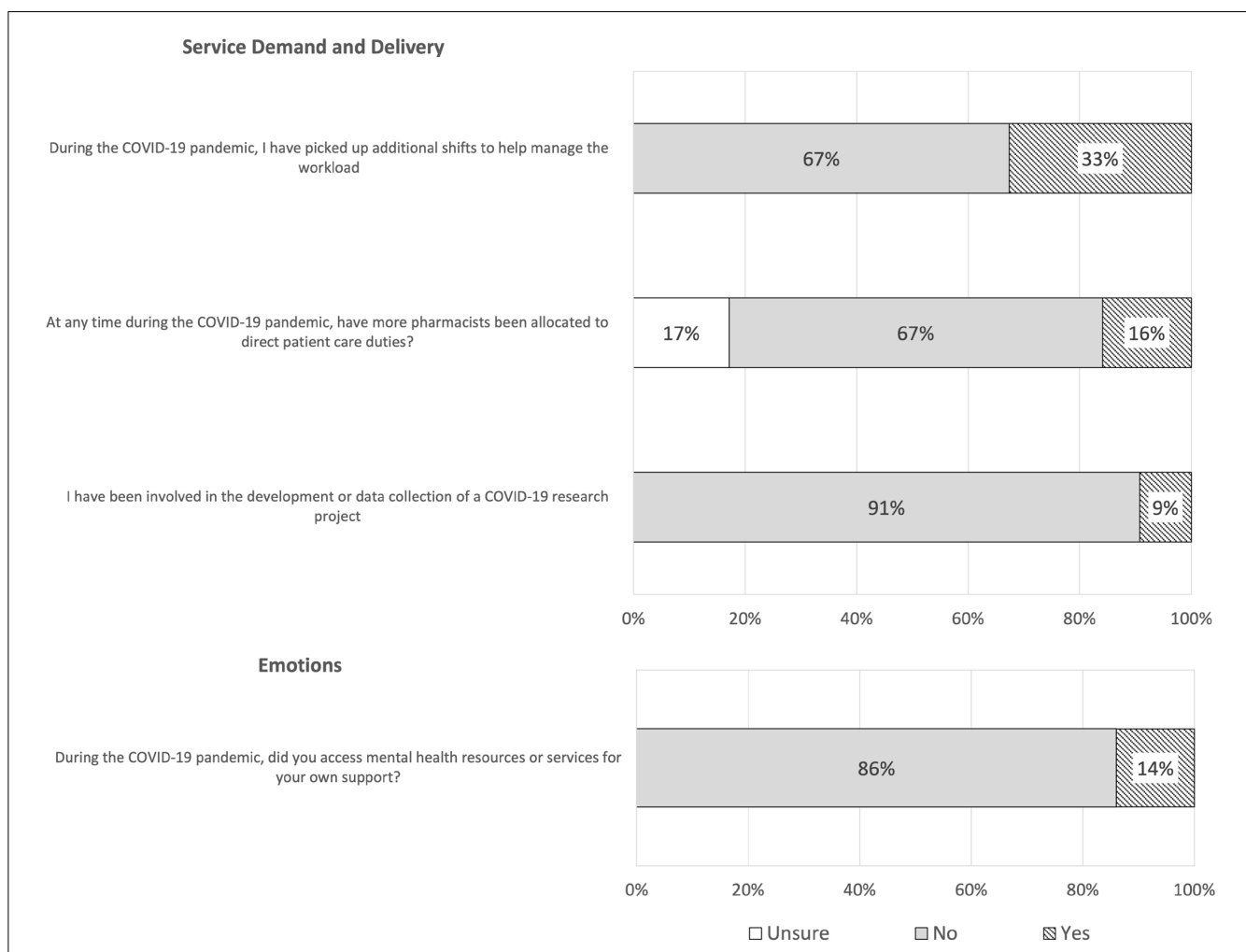


FIGURE 2. Pharmacists' perceptions, based on responses to closed-ended questions. Percentages are based on 389 respondents for each question.

patients had significantly lower scores than those who did not directly care for COVID-19 patients (Table 4).

DISCUSSION

This study investigated Canadian hospital pharmacists' perceptions of their workplace preparedness and personal well-being during the early period of the COVID-19 pandemic. Although most respondents felt that they were supported by their leadership and were able to express their questions and concerns, one-third of pharmacists did not feel this way. To improve this situation, leadership might consider providing more comprehensive support to address any

workplace or personal concerns among pharmacy staff members. Studies investigating burnout in pharmacists during the COVID-19 pandemic have suggested various strategies to reduce long-term sequelae of the pandemic. These interventions, including crisis management training, increased staffing, and implementation of self-care practices to promote psychological wellness, could be more widely adopted.^{1,2}

At the time the survey was administered, most respondents felt confident that their workplace was managing the pandemic effectively. This finding may be the result of how information was distributed at different institutions across Canada. Austin and Gregory³ characterized occupational factors that influenced resilience in pharmacy

TABLE 2. Services Provided during the COVID-19 Pandemic

Service Provided by Respondent	No. (%) of Respondents ^a (n = 432)
Multidisciplinary rounds	268 (62)
Identification and resolution of medication-related problems	337 (78)
Best possible medication histories	265 (61)
Medication reconciliation	291 (67)
Discharge counselling and/or other discharge services	248 (57)
Medication order entry, checking, and/or supply	287 (66)
COVID-19 service planning and/or development of local guidelines or services	147 (34)

^aMultiple selections were permitted.

TABLE 3. Resources Accessed to Aid in the Management of Patients with COVID-19

Resource	No. (%) of Respondents ^a (n = 432)
Institutional guidelines	250 (58)
Primary literature	218 (50)
National guidelines	206 (48)
Canadian Society of Hospital Pharmacists COVID-19 resources	204 (47)
Podcasts/webinars	174 (40)
International guidelines	154 (36)
Media sources	138 (32)
Social media	84 (19)
Other	41 (9)

^aMultiple selections were permitted.

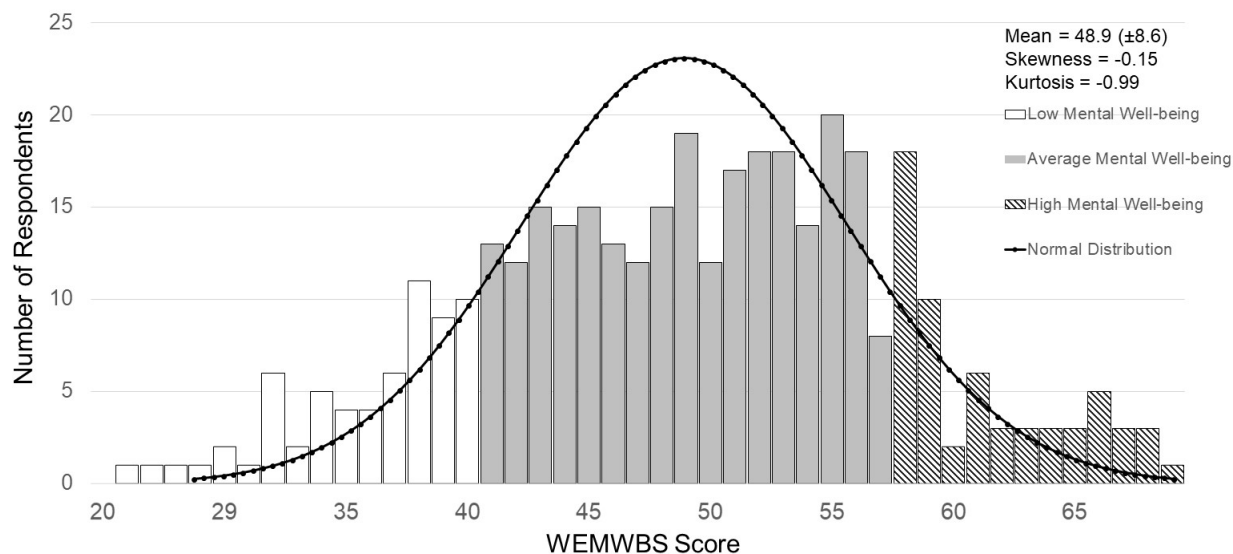


FIGURE 3. Distribution of scores on the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). The cut points were defined on the basis of 1 standard deviation above and below the mean, as outlined by the WEMWBS analysis guidelines.¹³

TABLE 4. Warwick–Edinburgh Mental Well-being Scale (WEMWBS) Scores by Demographic and Clinical Characteristics

Variable	No. of Respondents	WEMWBS Score (Mean ± SD)	p Value ^a
Age (years) (<i>n</i> = 377)			0.01
18–44	260	48.2 ± 8.4	
≥ 45	117	50.6 ± 9.0	
Sex (<i>n</i> = 373)			0.56
Male	77	49.5 ± 8.8	
Female	296	48.8 ± 8.6	
Region ^b (<i>n</i> = 363)			0.13
West coast	108	48.2 ± 8.5	
Prairie provinces	167	48.6 ± 8.4	
Central Canada	88	50.6 ± 9.5	
Leadership type (<i>n</i> = 377)			0.55
Management	58	49.5 ± 7.8	
Non-management	319	48.8 ± 8.8	
Provided direct care to COVID-19 patients (<i>n</i> = 371)			0.006
Yes	187	47.7 ± 8.8	
No	184	50.1 ± 8.4	

SD = standard deviation.

^aComparisons were completed by the Student *t* test or one-way analysis of variance (ANOVA), as appropriate.

^bWest coast = British Columbia; Prairie provinces = Alberta, Saskatchewan, Manitoba; central Canada = Ontario, Quebec. For the regional analysis, $F_{2,360} = 2.05$, $p = 0.13$.

practices, including organizational and managerial strategies, and found that the ways in which information was delivered directly affected its utility. Clear, practical guidelines and directives instructing pharmacists on how to practise and what to do in specific situations were most valuable in managing occupational issues contributing to stress and burnout.³ In contrast, when guidance was simply “sent” to pharmacists, the lack of communication supporting interpretation of this guidance affected recipients’ ability to utilize it.³ In contrast to those who lacked confidence in their workplace’s management of the pandemic, respondents who expressed such confidence may have received unambiguous guidance in relation to medication management and safe practices during the pandemic. However, this possibility was not explicitly explored, and future studies are warranted to identify areas for improvement to support health care workers in subsequent waves of COVID-19 or other public health crises.

Many respondents did not feel confident that, as the pandemic progressed, their workplace would continue to manage the situation effectively. The lack of published, peer-reviewed literature and the lack of availability of

definitive treatment at the time this survey was conducted, coupled with the looming winter season, may have affected respondents’ perceptions that their workplace would continue to manage patient demands during the pandemic. Especially early in the pandemic, guidelines were constantly evolving on the basis of new knowledge, and national guidelines were often slow to incorporate recommendations set out by the WHO. One such controversy was whether the virus was airborne and whether the use of face masks was warranted for infection control purposes.¹⁵ Although the use of face masks has now been mandated in many health care facilities across Canada, the lack of clarity in the initial stages likely resulted in confusion and stress.

Many respondents indicated that during the COVID-19 pandemic they were not able to complete their usual role within regular working hours, and almost half felt they were not able to provide the best patient care possible. Many institutions implemented new policies to prevent transmission by reducing direct patient interactions and limiting family visits.^{16,17} Pharmacists frequently conduct medication reconciliation upon admission and at transitions of care, including discharge, and have had to find alternative modes of communication.¹⁷ In the absence of easy and direct interaction with patients and their families, communication can be difficult and the delivery of these services can be a challenge.¹⁷ Furthermore, many respondents indicated there was simply not enough staffing to complete the work involved in providing usual pharmacy services during the pandemic. Future studies are needed to determine which aspects of their roles require more support and to develop structured protocols to manage the provision of this support.

In this study, approximately 1 in 5 respondents felt they did not receive training for infection prevention and control practices specific to COVID-19. This was especially concerning given that proper PPE use and hand hygiene have been the main modes of preventing transmission and protecting hospital staff.¹⁸ Furthermore, many respondents did not believe that the protective procedures in place were sufficient to prevent the spread of COVID-19. Commonly, institutions direct PPE training mainly to nurses and physicians; however, given these results, making such measures mandatory for pharmacists is also warranted. In this regard, management might consider designing training modules specific to pharmacists and their roles. Whether the specific role is conducting medication reconciliation through patient interviews or performing physical examinations, it is imperative that pharmacists be aware of the proper practices to safely complete their tasks.

Although community pharmacists have reported increased reliance upon regulatory bodies and professional associations as their primary sources of information about COVID-19, they have also noted that communications from these sources were often ambiguous and not focused

on actual guidance.³ The most popular resource accessed by hospital pharmacists who participated in this study was institutional guidelines, which are often more pragmatic and direct in the way they communicate information to front-line workers, because they pertain specifically to the individual's work environment. Surprisingly, despite public service announcements and other accessible resources about preventing transmission and disease contraction, most respondents felt that getting infected with COVID-19 was not within their control. Furthermore, a portion of the respondents were afraid to look after patients with COVID-19, which reinforces the need for additional provisions regarding COVID-19 education and PPE training.

Several studies have described the prevalence of mental health issues among pharmacists during the COVID-19 pandemic,¹⁻³ but this was the first to measure mental well-being itself, rather than the determinants of mental well-being. Given that the COVID-19 pandemic has affected all facets of life, including workplace experiences and personal lives, measuring well-being was an important element of this study as it represents the culmination of all these factors.

Although the WEMWBS scores in this study were numerically lower than those reported for physicians working during the COVID-19 pandemic in Pakistan¹⁹ and published population norms,²⁰ all subgroups were deemed to have average mental well-being. Given the lack of well-being data for pharmacists, it is difficult to determine if these numerically lower scores were due to the pandemic itself or if they were representative of pharmacists working in Canadian hospitals. Despite statistically significant differences between younger and older respondents (< 45 years versus ≥ 45 years) and, similarly, between respondents who provided direct care to COVID-19 patients and those who did not, all of the numeric values were within range for average well-being. As such, it is uncertain whether these statistically significant differences are clinically meaningful. Although a portion of pharmacists in this study had below-average mental well-being, it was interesting to observe that many more expressed concerns about contracting COVID-19 themselves and passing it along to their families. These results suggest that although pharmacists may have had significant concerns relating to COVID-19, they seemed to be able to cope without experiencing severe impacts on their well-being. This characteristic, known as resilience, is the ability to adapt during strenuous circumstances—such as the sudden onset of a global pandemic—and may explain these results.³ As discussed above, workplace support programs and clear guidelines were most effective in reducing occupation-related stress and ensuring resilience, which emphasizes the need to provide workplace and psychological support during the pandemic.³

This study had several limitations. The small sample size captured only about 6% of practising hospital pharmacists

within Canada. This falls below a typical survey response rate, but can be explained by the challenges of disseminating the survey across Canada. Furthermore, those who chose to participate in the study may have been more likely to demonstrate better mental well-being and positive perceptions than those who did not respond, potentially biasing the results. Interprovincial variation in pharmacy practices and the effect that the pandemic had on different provinces may also limit interpretation of the results, with the Prairie provinces and central Canada sometimes reporting more than double or triple the number of active cases relative to the east and west coast regions.²¹ In addition, this survey was conducted before the occurrence of more severe waves of COVID-19 in many areas across Canada. As such, the results may not reflect the perceptions or mental well-being of pharmacists during peak times of the COVID-19 pandemic, which limits the reliability of the data gathered and conclusions drawn.

As with all other mental health scales, the WEMWBS is subject to response bias. More specifically, impression management is a phenomenon whereby individuals may tailor their responses to be perceived in a certain way; when an individual remains unaware of their true mental state, this is known as self-deception.¹⁰ Importantly, the WEMWBS shows low correlation with these factors; therefore, respondents' true mental well-being scores are minimally affected when the evaluation is conducted at the group or population level.¹⁰

CONCLUSION

To our knowledge, this is the first study to explore the perceptions and mental well-being of Canadian hospital pharmacists during the COVID-19 pandemic. It has demonstrated that, during the early stages, pharmacists perceived their hospital, departments, and teams as being able to manage the pandemic. Ensuring that all hospital pharmacists receive training for effective COVID-19 infection prevention and control practices is crucial. According to the WEMWBS, participants had average mental well-being. However, it is not known how pharmacists' perceptions and well-being have changed with the continued evolution of the pandemic.

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