

Research Paper

# Are pharmacists well equipped to deal with global health emergencies? Burnout during COVID-19

Asmaa Al-Haqan<sup>1,\*</sup>, Farah Alenezi<sup>2</sup>, Shriefa Al-Mutairi<sup>2</sup> and Dalal Al-Taweel<sup>1</sup>

<sup>1</sup>Department of Pharmacy Practice, Faculty of Pharmacy, Kuwait University, Safat, Kuwait and

<sup>2</sup>Al-Farwaniya Hospital, Ministry of Health, Kuwait City, Kuwait

\*Correspondence: Asmaa Al-Haqan, Department of Pharmacy Practice, Faculty of Pharmacy, Health Sciences Center, Kuwait University, PO Box 24923, Safat 13110, Kuwait. Email: [asmaa.alhaqan@ku.edu.kw](mailto:asmaa.alhaqan@ku.edu.kw)

Received August 3, 2021; Accepted November 8, 2021.

## Abstract

**Objectives** This study aimed to evaluate and assess the burnout effect among pharmacists during COVID-19 pandemic in Kuwait.

**Methods** A cross-sectional study using an online self-administered questionnaire was conducted from September 2020 to January 2021. The questionnaire included demographic questions as well as items from the Copenhagen Burnout Inventory (CBI) to assess burnout in three domains: personal burnout, work-related burnout and client-related burnout. Descriptive statistics, correlations and comparative analysis were performed.

**Key findings** A total of 277 completed responses were received. The overall mean (SD) score for the respondents' burnout was 52.8 (19.1). The mean (SD) burnout scores for the three CBI domains (personal, work-related and client-related) were 56.6 (21.7), 53.9 (21.4) and 47.0 (23.8), respectively. It was found that younger age, female, Kuwaiti, Kuwait University graduates and less experienced participants had higher personal, work-related, client-related burnout scores. Personal and work-related scores were more strongly correlated ( $r = 0.81$ ); in comparison with their correlation with the client-related score ( $r \approx 0.55$ ).

**Conclusions** High burnout scores for pharmacists in Kuwait on a personal, work-related and client-related level during the COVID-19 pandemic were found. Strategies for early identification of burnout and recognition of modifiable factors that affect pharmacists' work in Kuwait are needed to promote pharmacists' psychological well-being.

**Keywords:** burnout; pharmacist; Copenhagen Burnout Inventory (CBI); Kuwait

## Introduction

Access to safe and effective medicines and healthcare services is a fundamental human right and a central pillar of any healthcare system.<sup>[1]</sup> Healthcare workers are an integral part of health systems and play a key role in the delivery of health services. The World Health Organisation (WHO) predicts that 40 million new healthcare

sector jobs will be created in high- and middle-income nations by 2030.<sup>[2]</sup> This shortage of healthcare workers might be exacerbated by the current COVID-19 pandemic. The COVID-19 pandemic has caused unprecedented stress on healthcare workers and healthcare systems globally. Routine work has been halted, staff have been deployed to unfamiliar clinical settings to fill in for gaps in clinical

teams, working hours have been extended and holiday leaves have been postponed. Moreover, insufficient knowledge concerning this virus, its mode of transmission and the wide-ranging symptoms have placed a tremendous pressure on healthcare professionals both physically and mentally.

Several studies have shown high level of burnout among healthcare workers during COVID-19.<sup>[3-5]</sup> Burnout was first defined in 1974 as 'the state of mental and physical exhaustion that is caused by one's professional life'.<sup>[6]</sup> This definition has evolved over the years, with the most recent definition reported by the WHO as 'an occupational syndrome that results from chronic workplace stress which has not been successfully managed'.<sup>[7]</sup>

Literature concerning burnout in healthcare professionals even before the pandemic has reported that healthcare workers are subjected to a higher risk of burnout compared with other community occupations.<sup>[8, 9]</sup> More specifically, it has been reported that infectious disease outbreaks have detrimental psychological effects on healthcare workers, such as anxiety, depression, chronic stress and post-traumatic stress disorder.<sup>[10-12]</sup> The consequences of this undesirable impact are lower productivity of the healthcare worker which accordingly results in diminished quality of care towards patients.<sup>[8, 9]</sup> Additionally, job dissatisfaction, low organizational commitment, intention to leave the job, as well as absenteeism and turnover are other costs of the burnout syndrome.<sup>[8, 9, 13]</sup>

Validated tools to assess burnout have been developed since the 1980s by Maslach and Jackson.<sup>[14]</sup> The Maslach Burnout Inventory (MBI) has been reported to be the most extensively used tool to assess burnout, however, in recent times, researchers have criticized the MBI's methodological and theoretical development and claimed that there is no clear relationship between the burnout concept and the MBI. In addition, it is reported that the MBI (and its updated version, the MBI-General survey) phrases questions related to exhaustion and cynicism negatively, while phrases questions linked to professional efficacy positively, and this could result in artificial clustering of items.<sup>[15, 16]</sup> The Copenhagen Burnout Inventory (CBI) was developed in 2005 by researchers from Denmark with the intention to avoid the pitfalls encountered by MBI. This inventory involves 19 questions divided into three dimensions: (i) personal burnout, (ii) work-related burnout and (iii) client-related burnout. The first dimension measures burnout in a generic scale (regardless of occupational status), and the second and third dimensions assess burnout on certain aspects of the person's life (work and client work). The CBI has been used to evaluate the burnout syndrome in many studies all over the world and across many disciplines.<sup>[17-21]</sup>

Pharmacists are an integral part of the healthcare team and are exposed to the same burnout factors as physicians and nurses especially during the COVID-19 pandemic. This includes improper working place, burden of non-clinical duties and excessive workloads along with lack of resources that are used to optimize patient goals and outcomes.<sup>[22]</sup> Data regarding pharmacists' burnout and its prevalence during the COVID-19 pandemic are minimal and require more investigations.<sup>[8]</sup> Thus, the aim of this study is to assess the burnout effects among pharmacists in Kuwait during the COVID-19 pandemic using the CBI.

## Methods

### Study design and setting

This is a descriptive, cross-sectional study using a self-administered online questionnaire. Ethical approval for this study was obtained from the Ministry of Health ethics committee (2020/1547).

### Study population

The target study population was all pharmacists working in Kuwait and registered in the Kuwait Pharmaceutical Association registry during the COVID-19 pandemic ( $N = 4331$ ).<sup>[23]</sup> This registry includes pharmacists working in both the government and private healthcare sectors in Kuwait. Eligibility to participate in this study was defined as 'pharmacists working in Kuwait at the time of the study in either the governmental sector (primary, secondary, tertiary, regulatory affairs, inspection department, or central medical store), or the private sector (community pharmacy, hospitals, or drug industry)'. Pharmacists were excluded from participation if they: (1) were not practicing their job during the COVID-19 pandemic (since February 2020 till the start of this study) or (2) were pharmacy technicians or pharmacy administrative staff.

### Data collection tool

An online questionnaire was developed using Qualtrics Survey Software (Qualtrics, Provo, UT, USA). The data collection tool was a questionnaire comprised of a total of 28 questions divided into two parts. The first part of the questionnaire comprised nine questions related to demographic characteristics of participants, for example, gender, age, years in practice, practice sector and setting and higher qualifications. The second section of the questionnaire utilized the CBI to collect data related to burnout.<sup>[16]</sup> It consisted of 19 questions divided into three domains: (a) personal burnout, reflected the level of physical and psychological exhaustion; (b) work-related burnout, reflected the level of physical and psychological exhaustion related to person's work; and (c) client-related burnout, reflected the level of physical and psychological exhaustion related to the person's client. All items used a five-point Likert scale (always, often, sometimes, seldom, and never OR very high degree, high degree, somewhat, to low degree, very low degree). Participants were invited to add any additional comments at the end of the questionnaire. The survey was designed and distributed in English, the original language of the CBI.<sup>[16]</sup> Pharmacists in Kuwait can read, write and speak English as all prescriptions and information in patient systems are in English. To enhance validity, a pilot test was conducted with a convenience sample of 15 pharmacists. Additional modifications were made to the survey based on the pilot test results. This included adding the word 'patient' to the word 'client' in the 'client-related burnout' domain. This was made to make the sentences clear to pharmacists working in direct patient care settings. Data were collected anonymously. Confidentiality was assured and participants provided consent to participate in the study before starting the online questionnaire. To indicate their consent to participate, participants were required to select either 'I agree to participate' or 'I don't agree to participate' before proceeding to the survey questions.

### Sample size and sampling method

The sample size was determined using the Raosoft sample size calculator<sup>[24]</sup> using a margin of error of 5% and a confidence interval of 95%, for a target population size of 4377 registered pharmacists according to Kuwait Pharmaceutical Association records. Assuming a response of 80%, the minimum sample size estimated was 233.

### Data collection and participants' recruitment

An anonymous survey link was sent to the Kuwait Pharmaceutical Association to be distributed to all pharmacists on their registry via social media. The anonymous link was also posted on existing Kuwait pharmacy networks to maximize the response rate. This

resulted in a 'snowballing technique', where pharmacists started forwarding or reposting the link on their own accounts or other academic networks. The survey was first distributed in September 2020 and closed in January 2021. Links to the anonymous survey were sent every 2 weeks as reminders.

### Data analysis

Data were analysed using Excel for Windows and the Statistical Package for Social Sciences (SPSS) version 15.0. Participants' demographic characteristics were analysed using frequencies (and percentages) and mean (SD) for the continuous scores. Scoring of the scale of CBI domains was as follows: 'Always' or 'To a very high degree': 100, 'Often' or 'To a high degree': 75, 'Sometimes' or 'Somewhat': 50, 'Seldom' or 'To a low degree': 25 and finally 'Never/almost never' or 'To a very low degree': 0. The total score on the scale is the average of the scores on the items with the possible score range for all scales being 0–100.<sup>[16]</sup> Burnout in any of the three domains was defined by CBI scores >50 for each domain.<sup>[4]</sup> *t*-tests and one-way ANOVA tests were used to evaluate the differences in means between the groups of predictor variables (e.g. demographic characteristics) and burnout scores. Association between personal, work-related and client-related burnout and demographic factors were checked using univariate analysis. Statistical correlational analysis (Pearson's correlation) was used to test correlation between the three burnout domains. Statistical significance for all analyses was defined as  $P < 0.05$ . The internal consistency for three CBI domains (personal, work-related and client-related) was assessed using the Cronbach  $\alpha$  test. The Cronbach  $\alpha$  for the three domains (personal, work-related and client-related) in this study were 0.89, 0.88 and 0.89, respectively. For all 19 questions,  $\alpha$  was estimated at 0.92. This demonstrates strong internal reliability in the samples used in this study.

### Results

A total of 403 pharmacists took part in this survey; only 277 responses were complete and used in this study. The majority of the respondents were female, with 178 female pharmacists taking part (64.3%). The average age of respondents was 34.1 years (SD  $\pm$  8.4 years). Respondents' demographics and further characteristics are shown in Table 1.

#### Overall burnout score

The overall mean (SD) burnout score for the respondents was 52.8 (19.1). Table 2 provides a descriptive analysis of personal, work and client-related burnout, with overall burnout scores presented. Burnout level was found to be higher between female pharmacists compared with male pharmacists ( $P < 0.001$ ). The younger, less experienced and more recently graduated the pharmacist, the higher their overall burnout scores ( $P < 0.001$ ,  $P = 0.001$ ,  $P = 0.002$ , respectively). A higher burnout between national citizens compared with other pharmacists was found ( $P = 0.002$ ). Moreover, it was found that pharmacists who graduated from Kuwait University had a higher overall burnout score compared with pharmacists who graduated from other countries ( $P < 0.001$ ). Pharmacists working in public general hospitals were found to have a higher burnout score ( $P = 0.03$ ) compared with pharmacists working in other settings.

#### Personal, work- and client-related burnout

Mean (SD) score for the respondents' personal burnout, work-related burnout and client-related burnout was 56.6 (21.7), 53.9 (21.4)

**Table 1** Respondents' demographics ( $n = 277$ )

Mean age in years (SD)	34.1 (8.4)
Gender	N (%)
Male	99 (35.7)
Female	178 (64.3)
Nationality	
Kuwaiti	194 (70)
Non-Kuwaiti	83 (30)
Marital status	
Married	171 (61.7)
Single	91 (32.9)
Divorced	14 (5.1)
Separated	1 (0.4)
Year of graduation	
1980–1989	13 (4.7)
1990–1999	21 (7.6)
2000–2009	83 (30)
2010–2020	160 (57.8)
Country of undergraduate degree	
Kuwait	128 (46.2)
Other country	149 (53.8)
Post-graduation qualification	
Yes	68 (24.5)
No	209 (75.5)
Years licensed	
<5	87 (31.4)
5–9	72 (26.0)
10–14	44 (15.9)
$\geq 15$	74 (26.7)
Practice site during COVID-19	
Primary care (polyclinic)	56 (20.2)
General government hospital	117 (42.2)
Private hospital	14 (5.1)
Specialized public hospital	22 (7.9)
Community pharmacy	20 (7.2)
Central medical store	10 (3.6)
Drug and food control	15 (5.4)
Drug inspection administration	7 (2.5)
Quarantine institute	15 (5.4)
Other	24 (8.7)
Duration of work practice during COVID-19	
<1 month	1 (0.4)
1–2 months	15 (5.4)
3–4 months	25 (9.0)
5–6 months (till the time of this study)	236 (85.2)

and 47.0 (23.8), respectively. It was found that female respondents had higher burnout scores compared with male respondents in all three domains. In addition, younger pharmacists, national citizens, and those who graduated from Kuwait University showed a higher burnout score in all three domains. With regard to marital status, it was found that divorced/separated participants had higher work-related burnout scores compared with married or single participants ( $P = 0.048$ ). Participants with postgraduate qualifications did not display any significant difference compared with those without a postgraduate qualification. It was also found that pharmacists working in a central medical store showed lower personal burnout ( $P = 0.019$ ) compared with other practice settings; whereas participants who worked in a public hospital experienced a significantly higher personal burnout score ( $P = 0.015$ ) compared with other settings.

A detailed analysis of the three different domains is provided in Table 3 using a univariate analysis of demographic characteristics and professional profile on personal, work-related and client-related burnout scores.

**Table 2** Distribution of respondents' responses to questions-related burnout domains<sup>1</sup>

	Always or to a very high degree (scoring 100), %	Often or to a high degree (scoring 75), %	Sometimes or somewhat (scoring 50), %	Seldom or to a low degree (scoring 25), %	Never/almost never or to a very low degree (scoring 0), %	Score, mean ( $\pm$ SD)
Personal burnout ( $\alpha = 0.89$ )						
How often do you feel tired?	17.0	36.1	39.0	4.7	3.2	64.7 $\pm$ 23.4
How often are you physically exhausted?	16.6	32.1	41.5	5.8	4.0	62.9 $\pm$ 24.2
How often are you emotionally exhausted?	23.1	28.2	36.8	5.4	6.5	64.0 $\pm$ 27.5
How often do you think I can't take it anymore	10.8	18.8	35.4	18.4	16.6	47.2 $\pm$ 30.2
How often do you feel worn out?	12.3	21.7	39.7	15.9	10.5	52.4 $\pm$ 28.3
How often do you feel weak and susceptible to illness?	9.7	16.2	42.6	20.2	11.2	48.3 $\pm$ 27.4
Total average score						56.6 $\pm$ 21.7
Work-related burnout ( $\alpha = 0.88$ )						
Is your work emotionally exhausting?	11.3	26.0	39.2	15.5	7.9	54.3 $\pm$ 26.9
Do you feel burn out because of your work?	13.6	30.2	34.0	15.1	7.2	57.0 $\pm$ 27.5
Does your work frustrate you?	13.6	19.2	34.7	20.0	12.5	50.4 $\pm$ 30.0
Do you feel worn out at the end of the working day?	18.9	31.7	33.6	10.6	5.3	62.1 $\pm$ 26.9
Are you exhausted in the morning at the thought of another day at work?	18.9	23.4	31.3	13.6	12.8	55.5 $\pm$ 31.6
Do you feel that every working hour is tiring for you?	9.4	17.0	37.7	22.6	13.2	46.7 $\pm$ 28.4
Do you have enough energy for family and friends during leisure time? (inverse scoring)	6.4	19.6	44.2	21.1	8.7	51.5 $\pm$ 25.1
Total average score						53.9 $\pm$ 21.4
Patient-related burnout ( $\alpha = 0.89$ )						
Do you find it hard to work with patients/clients?	6.6	18.1	33.2	28.2	13.9	43.8 $\pm$ 27.7
Do you find it frustrating to work with patients/clients?	5.0	17.8	35.1	23.2	18.9	41.7 $\pm$ 28.1
Does it drain your energy to work with patients/clients?	6.9	23.6	30.5	25.5	13.5	46.2 $\pm$ 28.4
Do you feel that you give more than you get back when you work with patients/clients?	20.5	27.4	28.2	12.4	11.6	58.2 $\pm$ 31.4
Are you tired of working with patients/clients?	6.9	17.8	33.6	21.6	20.1	42.5 $\pm$ 29.4
Do you sometimes wonder how long you will be able to continue working with patients/clients?	17.0	16.2	32.8	16.6	17.4	49.7 $\pm$ 32.7
Total average score						47.0 $\pm$ 23.8

<sup>1</sup>Possible score range for all scales is 0–100.

### Correlation between burnout domains

The correlations between all burnout domains (personal, work- and client-related) are shown in Table 4. It was found that personal and work-related scores were more strongly correlated ( $r = 0.81$ ); in comparison with their correlation with the client-related score ( $r \approx 0.55$ ).

### Discussion

Pharmacists globally play a vital role as front-liners in medication management and supply throughout the COVID-19 pandemic. Pharmacists, like other healthcare workers, were challenged to cope

with the global emergency during COVID-19. In Kuwait, many pharmacists were deployed to work in institutional quarantine centres, worked overtime and experienced increased workload due to the pandemic, with all leaves put on hold during COVID 'waves'. This study used the CBI to assess pharmacists' burnout. This tool provided a multidimensional construct consisting of personal, work-related and client (or patient)-related burnout. The CBI has been reported to be a psychometrically valid and reliable instrument for assessing burnout in healthcare professionals.<sup>[25]</sup> A study published in 2021 also confirms its validity and reliability as an instrument to assess burnout in pharmacists in different practice settings.<sup>[26]</sup>

**Table 3** Univariate analysis of demographics and professional profile on burnout scores (mean  $\pm$  SD)

	Personal	Work-related	Client-related	Total
Gender				
Male	48.0 $\pm$ 21.1	46.7 $\pm$ 21.5	41.7 $\pm$ 22.9	45.8 $\pm$ 18.5
Female	61.4 $\pm$ 20.6	57.8 $\pm$ 20.3	49.9 $\pm$ 23.8	56.6 $\pm$ 18.4
	<i>P</i> -value <sup>1</sup>	<0.001***	0.007**	<0.001***
Age (years)				
<30	62.3 $\pm$ 21.4	59.6 $\pm$ 20.8	51.3 $\pm$ 24.9	57.9 $\pm$ 19.5
30–39	54.6 $\pm$ 21.2	51.9 $\pm$ 22.1	44.4 $\pm$ 23.2	50.4 $\pm$ 18.8
$\geq$ 40	50.4 $\pm$ 20.9	47.4 $\pm$ 18.8	44.0 $\pm$ 21.8	47.9 $\pm$ 17.3
	<i>P</i> -value <sup>1</sup>	<0.001***	0.028*	<0.001***
Nationality				
Kuwaiti	59.3 $\pm$ 21.9	57.0 $\pm$ 20.6	49.1 $\pm$ 24.2	55.1 $\pm$ 19.2
Non-Kuwaiti	50.1 $\pm$ 19.8	46.2 $\pm$ 21.5	41.5 $\pm$ 21.9	46.9 $\pm$ 17.7
	<i>P</i> -value <sup>1</sup>	0.001**	0.022*	0.002**
Marital status				
Married	54.5 $\pm$ 23.1	51.5 $\pm$ 22.3	47.1 $\pm$ 24.0	51.3 $\pm$ 20.2
Single	59.7 $\pm$ 18.2	57.0 $\pm$ 18.9	46.6 $\pm$ 22.8	54.9 $\pm$ 16.3
Divorced/separated	61.4 $\pm$ 22.6	62.2 $\pm$ 22.3	48.4 $\pm$ 28.4	57.9 $\pm$ 23.4
	<i>P</i> -value <sup>1</sup>	0.121	0.048*	0.223
Year of graduation				
1980–1989	39.1 $\pm$ 22.7	36.6 $\pm$ 24.0	38.3 $\pm$ 18.6	40.6 $\pm$ 17.5
1990–1999	52.0 $\pm$ 19.6	51.5 $\pm$ 18.6	46.7 $\pm$ 20.7	49.9 $\pm$ 17.9
2000–2009	52.2 $\pm$ 20.9	48.3 $\pm$ 20.0	43.0 $\pm$ 24.8	47.9 $\pm$ 18.8
2010–2020	60.9 $\pm$ 21.2	58.4 $\pm$ 21.0	49.6 $\pm$ 23.7	56.5 $\pm$ 18.8
	<i>P</i> -value <sup>1</sup>	<0.001***	0.071	0.002**
Country of undergraduate degree				
Kuwait	61.3 $\pm$ 20.3	58.9 $\pm$ 19.7	51.3 $\pm$ 23.1	57.2 $\pm$ 18.4
Other country	52.5 $\pm$ 20.0	49.4 $\pm$ 21.9	43.1 $\pm$ 23.8	48.9 $\pm$ 19.0
	<i>P</i> -value <sup>1</sup>	0.001**	0.005**	<0.001***
Post-graduation qualification				
Yes	60.0 $\pm$ 22.9	56.4 $\pm$ 22.7	43.7 $\pm$ 23.7	53.6 $\pm$ 19.8
No	55.4 $\pm$ 21.2	53.1 $\pm$ 21.0	48.1 $\pm$ 23.7	52.6 $\pm$ 19.0
	<i>P</i> -value <sup>1</sup>	0.128	0.296	0.709
Years licensed				
<5	59.8 $\pm$ 22.5	57.7 $\pm$ 22.6	49.3 $\pm$ 25.1	55.9 $\pm$ 20.3
5–9	60.1 $\pm$ 20.3	56.6 $\pm$ 20.7	48.6 $\pm$ 22.9	55.4 $\pm$ 17.6
10–14	58.1 $\pm$ 18.5	54.4 $\pm$ 19.5	49.5 $\pm$ 22.8	53.8 $\pm$ 16.8
$\geq$ 15	48.5 $\pm$ 22.1	46.2 $\pm$ 20.1	41.0 $\pm$ 22.9	45.7 $\pm$ 19.0
	<i>P</i> -value <sup>1</sup>	<0.001***	0.045*	0.001**
Practice site during COVID-19				
Primary care (polyclinic)	55.7 $\pm$ 22.0	55.1 $\pm$ 20.7	50.6 $\pm$ 21.8	54.3 $\pm$ 19.2
General public hospital	60.3 $\pm$ 19.8*	56.7 $\pm$ 20.6	49.1 $\pm$ 24.1	55.8 $\pm$ 18.0*
Private hospital	58.6 $\pm$ 21.5	53.3 $\pm$ 22.0	42.7 $\pm$ 20.9	51.2 $\pm$ 19.2
Specialized public hospital	58.9 $\pm$ 22.6	55.2 $\pm$ 24.5	46.4 $\pm$ 28.6	54.0 $\pm$ 22.7
Community pharmacy	48.3 $\pm$ 17.5	45.3 $\pm$ 17.0	47.7 $\pm$ 18.7	48.1 $\pm$ 12.8
Central medical store	40.8 $\pm$ 22.8*	44.4 $\pm$ 22.0	39.4 $\pm$ 27.7	41.2 $\pm$ 16.8
Drug and food control	53.1 $\pm$ 19.6	51.3 $\pm$ 20.6	44.3 $\pm$ 22.0	49.1 $\pm$ 19.5
Drug inspection administration	45.2 $\pm$ 32.1	45.8 $\pm$ 18.8	41.0 $\pm$ 22.0	42.4 $\pm$ 23.3
Quarantine institute	47.5 $\pm$ 21.6	50.5 $\pm$ 15.5	40.6 $\pm$ 24.4	46.2 $\pm$ 18.1
Other	50.3 $\pm$ 23.3	44.5 $\pm$ 24.1	34.5 $\pm$ 20.8	43.1 $\pm$ 18.7

<sup>1</sup>*P*-values according to two-sample *t*-test, one-way ANOVA and Pearson's correlation.

\**P* < 0.05; \*\**P* < 0.01; \*\*\**P* < 0.001.

**Table 4** Correlation between components of burnout

	Personal	Work-related
Personal		
Work-related	$r = 0.81$ ; $P < 0.001$ ***	
Client-related	$r = 0.52$ ; $P < 0.001$ ***	$r = 0.58$ ; $P < 0.001$ ***

\*\*\**P* < 0.001.

Since little is known about pharmacists' burnout in Kuwait and the Eastern Mediterranean region, this study may provide novel data. These data are imperative to guide the development of support strategies to empower pharmacists and other healthcare workers to face these challenging global health crises.

This study found that overall burnout was reported to be 52.8 (19.1). High burnout scores among pharmacists during COVID-19 pandemic were also reported in previous research.<sup>[4, 5]</sup> This is

understandable as in general, the high overall burnout score could be explained by the fact that, during the pandemic, management of individuals towards their occupations was not optimal and this may have contributed to the burnout syndrome.<sup>[8]</sup> The causes and contributors can be divided into individual-related factors, organizational-related factors, and mismatch between the two.<sup>[8]</sup> The individual-related contributors are demographic and personality traits. On the other hand, the organizational-related factors are defined as job overload. It has been reported that these two factors demonstrated the correlation between job demands and increased burnout as positive correlation.<sup>[27]</sup> Furthermore, other contributors related to burnout are time pressure, lack of feedback, autonomy and social support, as well as role of conflict and ambiguity.<sup>[8, 28, 29]</sup> According to recent evidence, a combination of the previously mentioned factors is the driving force of the burnout.<sup>[8]</sup>

This study showed a higher overall burnout among younger participants as well as those with less experience. This is consistent with a previously published study that showed that the incidence of burnout in healthcare employees appears more in 30- to 40 years old and in those who are in their early career.<sup>[5, 26, 28, 30]</sup> This suggests that age is a protective measure against burnout. This could be explained by the fact that older pharmacists manage difficult situations better than their younger counterparts as their previous exposure to stressful situations increases their ability to deal with them.<sup>[31]</sup>

With regard to gender, our study reported a higher overall burnout level among female pharmacists. Female respondents also displayed a higher burnout level in all three domains (personal, work-related and client-related). Previous research has reported that the prevalence of burnout, even before COVID-19, was noticed to be higher in females compared with males, which is consistent with our study.<sup>[28, 32-34]</sup> However, a systematic review studying burnout in pharmacists found female gender to be a risk factor in only a few studies, with the majority of studies not reporting a difference between genders.<sup>[22]</sup> As our study was conducted during the pandemic, the higher burnout score reported by females could be explained by the fact that women are more likely to carry additional roles as carers during the pandemic and lack the usual social support networks.<sup>[35]</sup> It has been reported that among healthcare workers, mothers were more likely to quit their jobs (or lose them) during the COVID-19 pandemic compared with fathers.<sup>[36]</sup>

With regard to practice sites, our study reported that pharmacists working in general public hospitals felt more burnt out compared with other settings. A study performed in the USA assessing burnout in pharmacists in 2019 (pre-COVID) reported burnout to be higher in community pharmacists than in clinical pharmacists working in hospitals. This was explained by the fact that community pharmacists spent a significant amount of time on routine medication dispensing than other activity such as patient care. This gave them a sense of dissatisfaction and a feeling that their skills were underused.<sup>[26]</sup> In Kuwait, clinical pharmacists working in general public hospitals were asked to relocate to the main pharmacy and shift their services to dispensing during the pandemic, possibly in an effort to minimize numbers of staff on wards to avoid risks of COVID infection. This could explain the higher burnout score in pharmacists in general hospitals. Engaging pharmacists in continuous medication management services, rather than traditional dispensing, could possibly increase pharmacists' satisfaction and reduce burnout.<sup>[37]</sup>

### Implications for practice

Skills needed for healthcare workers to cope with global emergencies were found to be lacking. A study from Saudi Arabia has shown that higher burnout scores lead to lower scores for adaptive coping

among physicians and nurses.<sup>[3]</sup> Moreover, prior experience with disasters, pandemics and major traumatic events showed that mental and well-being support to healthcare professionals enabled them to become aware of their own emotions and this can help them provide better care for their patients during stressful events.<sup>[38]</sup> With the current COVID-19 pandemic, healthcare systems may need to begin to endorse strategies for emotional, mental health and well-being support for healthcare workers during crises. These strategies are vital to ensure efficient healthcare services are provided for patients in a timely manner. The future of health and the integrity of health systems are closely intertwined with the capabilities and competencies of healthcare workers; and quality health service delivery depends on sustainably strengthening healthcare workers and their capacities to meet complex population and health needs.<sup>[39]</sup>

### Limitations

This study has some limitations. Due to the cross-sectional nature of this study, data collected represented one point in time and may not reflect changes in respondents' level of burnout over time. Another limitation is that only 277 responses were included in the analysis. However, the number of responses in this study is comparable to the number of responses in similar studies conducted in Kuwait and elsewhere.<sup>[23, 40, 41]</sup> Moreover, there is no national pharmacist demographic data that could be used to compare and identify the representativeness of the sample in this study. Furthermore, as the study employed 'snow balling' sampling, it is possible that certain pharmacists' categories might be under-represented in the sample. In addition, this study focussed only on assessing the level of burnout and did not address the reasons behind it. Future work could explore the reasons behind burnout in pharmacists, and possibly identify factors that have affected pharmacists, particularly during the COVID-19 pandemic.

### Conclusions

This study reported high burnout scores for pharmacists in Kuwait on a personal, work-related and client-related level during the COVID-19 pandemic. This would inform the development of personalized support and interventions, as well as training, for pharmacists in need. Support for pharmacists, in general, is paramount and should be integrated into crisis planning and management on a national level. Strategies for identification of burnout and recognition of modifiable factors that affect pharmacists' work in Kuwait are needed to promote pharmacists' psychological well-being.

### Acknowledgements

Not Applicable.

### Author Contributions

A.A., D.A. and F.A. conceptualized and designed the study, designed the data collection instrument, collected data and contributed to initial manuscript drafting. A.A. and D.A. analysed and interpreted the data and critically reviewed and revised the manuscript for important intellectual content. S.A. contributed to data collection and contributed to initial manuscript drafting. All authors have reviewed, revised and approved the final manuscript.

### Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Conflict of Interest

The authors have no competing interests to declare.

## Ethics Approval and Consent to Participate

The study was approved by the Ethics Committee of the Ministry of Health of Kuwait (2020/1547). Participants indicated their consent to participate in the survey before starting the online questionnaire.

## Data Availability

The datasets generated during and/or analysed during this study are available from the corresponding author on reasonable request.

## References

- Bigdeli M, Jacobs B, Tomson G *et al.* Access to medicines from a health system perspective. *Health Policy Plan* 2013; 28: 692–704. <https://doi.org/10.1093/heapol/czs108>
- WHO. Health in 2015: from MDGs, Millennium Development Goals to SDGs, Sustainable Development Goals. 2015. [https://www.who.int/gho/publications/mdgs-sdgs/MDGs-SDGs2015\\_toc.pdf?ua=1](https://www.who.int/gho/publications/mdgs-sdgs/MDGs-SDGs2015_toc.pdf?ua=1) (20 April 2021, date last accessed).
- AlJhani S, AlHarbi H, AlJamel S *et al.* Burnout and coping among health-care providers working in Saudi Arabia during the COVID-19 pandemic. *Middle East Curr Psychiatry* 2021; 28: 29. <https://doi.org/10.1186/s43045-021-00108-6>
- Khasne RW, Dhakulkar BS, Mahajan HC *et al.* Burnout among healthcare workers during COVID-19 pandemic in India: results of a questionnaire-based survey. *Indian J Crit Care Med* 2020; 24: 664–71. <https://doi.org/10.5005/jp-journals-10071-23518>
- Roslan NS, Yusoff MSB, Ab Razak A *et al.* Burnout prevalence and its associated factors among Malaysian healthcare workers during COVID-19 pandemic: an embedded mixed-method study. *Healthcare* 2021; 9: 90. <https://doi.org/10.3390/healthcare9010090>
- Freudenberger HJ. Staff burn-out. *J Soc Issues* 1974; 30: 159–65. <https://doi.org/10.1111/j.1540-4560.1974.tb00706.x>
- WHO. ICD-11 for Mortality and Morbidity Statistics. 2020. <https://icd.who.int/browse11/l-m/en#/http%3a%2f%2fid.who.int%2fcd%2fentify%2f129180281> (27 April 2021, date last accessed).
- Hagemann TM, Reed BN, Bradley BA *et al.* Burnout among clinical pharmacists: causes, interventions, and a call to action. *J Am Coll Clin Pharm* 2020; 3: 832–42. <https://doi.org/10.1002/jac5.1256>
- Dyrbye LN, Shanafelt TD, Sinsky CA *et al.* Burnout among health care professionals: a call to explore and address this underrecognized threat to safe, high-quality care. *NAM Perspectives*. Discussion Paper, National Academy of Medicine, Washington, DC, 2017.
- McAlonan GM, Lee AM, Cheung V *et al.* Immediate and sustained psychological impact of an emerging infectious disease outbreak on health care workers. *Can J Psychiatry* 2007; 52: 241–7. <https://doi.org/10.1177/070674370705200406>
- Ji D, Ji YJ, Duan XZ *et al.* Prevalence of psychological symptoms among Ebola survivors and healthcare workers during the 2014–2015 Ebola outbreak in Sierra Leone: a cross-sectional study. *Oncotarget* 2017; 8: 12784–91. <https://doi.org/10.18632/oncotarget.14498>
- Goulia P, Mantas C, Dimitroula D *et al.* General hospital staff worries, perceived sufficiency of information and associated psychological distress during the A/H1N1 influenza pandemic. *BMC Infect Dis* 2010; 10: 322. <https://doi.org/10.1186/1471-2334-10-322>
- Balayssac D, Pereira B, Virot J *et al.* Burnout, associated comorbidities and coping strategies in French community pharmacies-BOP study: a nationwide cross-sectional study. *PLoS One* 2017; 12: e0182956. <https://doi.org/10.1371/journal.pone.0182956>
- Maslach C, Jackson SE. The measurement of experienced burnout. *J Organ Behav* 1981; 2: 99–113. <https://doi.org/10.1002/job.4030020205>
- Demerouti E, Bakker AB, Nachreiner F *et al.* The job demands-resources model of burnout. *J Appl Psychol* 2001; 86: 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Kristensen TS, Borritz M, Villadsen E *et al.* The Copenhagen Burnout Inventory: a new tool for the assessment of burnout. *Work Stress* 2005; 19: 192–207. <https://doi.org/10.1080/02678370500297720>
- Yeh WY, Cheng Y, Chen CJ *et al.* Psychometric properties of the Chinese version of Copenhagen Burnout Inventory among employees in two companies in Taiwan. *Int J Behav Med* 2007; 14: 126–33. <https://doi.org/10.1007/BF03000183>
- Milfont TL, Denny S, Ameratunga S *et al.* Burnout and wellbeing: testing the Copenhagen Burnout Inventory in New Zealand teachers. *Soc Indic Res* 2007; 89: 169–77. <https://doi.org/10.1007/s11205-007-9229-9>
- Mahmoudi S, Atashzadeh-Shoorideh F, Rassouli M *et al.* Translation and psychometric properties of the Copenhagen Burnout Inventory in Iranian nurses. *Iran J Nurs Midwifery Res* 2017; 22: 117–22. <https://doi.org/10.4103/1735-9066.205958>
- Andrew Chin RW, Chua YY, Chu MN *et al.* Investigating validity evidence of the Malay translation of the Copenhagen Burnout Inventory. *J Taibab Univ Med Sci* 2018; 13: 1–9. <https://doi.org/10.1016/j.jtumed.2017.06.003>
- Rocha FLR, de Jesus LC, Marziale MHP *et al.* Burnout syndrome in university professors and academic staff members: psychometric properties of the Copenhagen Burnout Inventory–Brazilian version. *Psicol Refl Crit* 2020; 33: 11. <https://doi.org/10.1186/s41155-020-00151-y>
- McQuade BM, Reed BN, DiDomenico RJ *et al.* Feeling the burn? A systematic review of burnout in pharmacists. *J Am Coll Clin Pharm* 2020; 3: 663–75. <https://doi.org/10.1002/jac5.1218>
- Al-Haqan A, Smith F, Bader L *et al.* Competency development for pharmacy: adopting and adapting the Global Competency Framework. *Res Social Adm Pharm* 2021; 17: 771–85. <https://doi.org/10.1016/j.sapharm.2020.06.023>
- Raosoft. *Sample Size Calculator*. 2014. [http://www.raosoft.com/sample\\_size.html](http://www.raosoft.com/sample_size.html) (15 August 2020, date last accessed).
- Winwood P, Winefield A. Comparing two measures of burnout among dentists in Australia. *Int J Stress Manag* 2004; 11: 282. <https://doi.org/10.1037/1072-5245.11.3.282>
- Fadare O, Andreski M, Witry M. Validation of the Copenhagen Burnout Inventory in pharmacists. *Innov Pharm* 2021; 12: 4. <https://doi.org/10.24926/iip.v12i2.3699>
- Maslach C, Leiter MP. Teacher burnout: a research agenda. In Vandenberghe R, Huberman AM (eds.), *Understanding and Preventing Teacher Burnout: A Sourcebook of International Research and Practice*. Cambridge, UK: Cambridge University Press, 1999, 295–303.
- Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol* 2001; 52: 397–422. <https://doi.org/10.1146/annurev.psych.52.1.397>
- Cordes CL, Dougherty TW. A review and an integration of research on job burnout. *Acad Manage Rev* 1993; 18: 621–56. <https://doi.org/10.2307/258593>
- Trockel M, Bohman B, Lesure E *et al.* A brief instrument to assess both burnout and professional fulfillment in physicians: reliability and validity, including correlation with self-reported medical errors, in a sample of resident and practicing physicians. *Acad Psychiatry* 2018; 42: 11–24. <https://doi.org/10.1007/s40596-017-0849-3>
- Charles S, Piazza J. Age differences in affective well being: context matters. *Soc Personal Psychol Compass* 2009; 3: 711–24. <https://doi.org/10.1111/j.1751-9004.2009.00202.x>
- Jones GM, Roe NA, Loudon L *et al.* Factors associated with burnout among US hospital clinical pharmacy practitioners: results of a nationwide pilot survey. *Hosp Pharm* 2017; 52: 742–51. <https://doi.org/10.1177/0018578717732339>
- El-Ibiary SY, Yam L, Lee KC. Assessment of burnout and associated risk factors among pharmacy practice faculty in the United States. *Am J Pharm Educ* 2017; 81: 75. <https://doi.org/10.5688/ajpe81475>
- Dyrbye LN, Shanafelt TD, Balch CM *et al.* Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. *Arch Surg* 2011; 146: 211–7. <https://doi.org/10.1001/archsurg.2010.310>
- Fortier N. COVID-19, gender inequality, and the responsibility of the state. *Int J Wellbeing* 2020; 10: 77–93. <https://doi.org/10.5502/ijw.v10i3.1305>

36. Adams JG, Walls RM. Supporting the health care workforce during the COVID-19 global epidemic. *JAMA* 2020; 323: 1439–40. <https://doi.org/10.1001/jama.2020.3972>
37. Goedken AM, Butler CM, McDonough RP *et al.* Continuous Medication Monitoring (CoMM): a foundational model to support the clinical work of community pharmacists. *Res Social Adm Pharm* 2018; 14: 106–11. <https://doi.org/10.1016/j.sapharm.2016.12.008>
38. Barello S, Palamenghi L, Graffigna G. Stressors and resources for health-care professionals during the covid-19 pandemic: lesson learned from Italy. *Front Psychol* 2020; 11: 2179. <https://doi.org/10.3389/fpsyg.2020.02179>
39. International Pharmaceutical Federation. *Transforming Pharmacy and Pharmaceutical Sciences Education in the Context of Workforce Development*. 2017. <https://www.fip.org/file/1387> (20 February 2018, date last accessed).
40. Mucalo I, Hadžiabdić MO, Govorčinović T *et al.* The development of the Croatian competency framework for pharmacists. *Am J Pharm Educ* 2016; 80: 134. <https://doi.org/10.5688/ajpe808134>
41. The Pharmaceutical Society of Ireland. *Core Competency Framework for Pharmacists*. 2013. [https://www.thepsi.ie/libraries/publications/psi\\_core\\_competency\\_framework\\_for\\_pharmacists.sflb.ashx](https://www.thepsi.ie/libraries/publications/psi_core_competency_framework_for_pharmacists.sflb.ashx) (29 April 2017, date last accessed).