

The factors affecting burnout among community pharmacists in Vietnam: a community-based cross-sectional study

Le Tran Tuan Anh¹, Ngo Thi Kim Cuc^{2*}, Vo Thi Tan Tien², Nguyen Phuoc Bich Ngoc²,
 Nguyen Thi Phuong Thao³, Tran Nhu Minh Hang¹, Le Chuyen⁴

(1) Department of Psychiatry, Hue University of Medicine and Pharmacy, Hue University

(2) Faculty of Pharmacy, Hue University of Medicine and Pharmacy, Hue University

(3) Institute for Community Health Research, Hue University of Medicine and Pharmacy, Hue University

(4) Pharmacology Department, Hue University of Medicine and Pharmacy, Hue University

Abstract

Objectives: This study investigated burnout prevalence and its risk factors among community pharmacists in Vietnam. **Methods:** An interview-based cross-sectional study on 362 pharmacists working in pharmacies in Hue City between January and June 2023 was conducted. Data were collected using a Vietnamese interview questionnaire that included socio-demographic characteristics, work-related variables, and knowledge, attitudes, and practices regarding the role of community pharmacists in Hue in improving community health. Burnout status was assessed using the validated Vietnamese version of the Copenhagen Burnout Inventory (CBI-V). **Results:** The prevalence of personal, work-related, and client-related burnout was 12.7, 12.4 and 11.6%. 53.3% occasionally felt work-related tiredness, with a third feeling exhausted at the end of the workday. Difficulties in working with clients (39.2%) and a sense of giving more than receiving from clients (34.8%) were significant. A higher work-related burnout rate was reported with negative attitudes. Meanwhile, factors such as workplace, customer volume, and pharmacists' knowledge and attitudes were linked to client-related burnout. **Conclusion:** This study emphasizes the importance of developing strategies to mitigate burnout and maintain pharmaceutical care quality and pharmacist well-being.

Keywords: Community pharmacy, Copenhagen Burnout Inventory, Good Pharmacy Practices, Healthcare.

1. INTRODUCTION

Community pharmacists are among the most accessible healthcare professionals to the public, especially during pandemic conditions, when overcrowding in the healthcare system overwhelms healthcare facilities. At the beginning of 2020, the International Pharmaceutical Federation (FIP) addressed the need to provide professional and technical guidance for pharmacists who support patients dealing with primary health problems and offer a range of services, including advice, information, and even home delivery of medicines [1]. Community pharmacy services towards patient-centered care have also been integrated into Good Pharmacy Practices (GPP) [1]. Consequently, these responsibilities placed on community pharmacists have increased the risk of burnout among this valuable but vulnerable human resource in the aftermath.

It is important to note that burnout significantly impacts physical and mental health, leading to health conditions such as cardiovascular diseases and obesity, as well as anxiety and depression. Furthermore, burnout can negatively impact the job

performance of community pharmacists, leading to decreased productivity and quality of care. It may also result in increased absenteeism, job dissatisfaction, reduced organizational commitment, intentions to leave the job, and staff attrition [2].

According to the World Health Organization, burnout is "a syndrome conceptualized from chronic workplace stress that has not been successfully managed. It is characterized by three dimensions: feelings of energy depletion or exhaustion, increased mental distance from one's job or feelings of negativism or cynicism related to one's job, and reduced professional efficacy" [3]. After the COVID-19 pandemic, work-related stress and burnout in community pharmacists seem to have been overlooked. Studies carried out in different regions prior to the pandemic revealed that pharmacists were suffering from poor mental health, specifically burnout. Research data from The Pharmaceutical Journal showed that in 2021, a quarter of pharmacists reported being "very stressed at work", approximately double the rate reported in the previous year [4]. The group most affected appears to be community pharmacists. Based on

a 2021 survey of American pharmacists, 47% of respondents reported current burnout and 81% reported a history of burnout [5]. A cross-sectional study evaluating burnout among pharmacy staff in Saudi Arabia during the COVID-19 pandemic found that 59% of pharmacists experienced client related burnout [6]. Studies conducted in Italy and Spain on healthcare providers, including pharmacists, revealed a high prevalence of burnout during the COVID-19 pandemic [7, 8]. In France, a study among community pharmacists showed that up to 35% reported psychological disturbances, including burnout [9]. Another study in the USA indicated that burnout affected more than half of healthcare pharmacists [6].

Burnout levels were significantly higher among pharmacists who were younger, female, less experienced, or worked in a community pharmacy [10,11]. It is unsurprising that pharmacists under work strain are more prone to pharmaceutical errors. While occasional stress can be motivating, long-term chronic stress is detrimental. This can lead to lower productivity among healthcare workers and a diminished quality of care for patients [11]. Exploring pharmacists' mental health post-pandemic is crucial, as is investigating factors influencing their mental health. Identifying these factors can inform employers and policymakers, thereby improving pharmacists' mental well-being.

Since the 1980s, Maslach and Jackson have developed validated tools for assessing burnout. The Maslach Burnout Inventory (MBI) has been reported as the most extensively used tool to assess burnout [11, 12]. However, researchers have criticized the MBI's methodological and theoretical development and claimed that the burnout concept and the MBI have no clear relationship. The Copenhagen Burnout Inventory (CBI) was developed in 2005 by Danish researchers to avoid the pitfalls encountered by the MBI [11, 12]. The CBI consists of three scales measuring personal burnout, work-related burnout, and client-related burnout. It involves 19 questions divided into three dimensions. The first dimension measures burnout on a generic scale (regardless of occupational status), and the second and third dimensions assess burnout in specific aspects of a person's life (work and client-related burnout). The Project on Burnout, Motivation and Job Satisfaction (PUMA) study analyzed the validity and reliability of the CBI, finding all three scales to have very high internal reliability, and low non-response rates. As a result, the CBI can be considered a psychometrically reliable and valid tool for assessing burnout in

pharmacists [12].

The CBI has been utilised in several countries and translated into eight languages [12, 13]. However, in Vietnam, very few studies have assessed burnout levels among community pharmacists using the CBI, especially after the COVID epidemic. Moreover, data on burnout among Vietnamese community pharmacists is scarce. These findings could provide valuable insights for pharmacy managers, policymakers, and educators in tackling the issue of burnout. Therefore, this study aimed to assess the prevalence of burnout syndrome among community pharmacists in Vietnam and explore risk factors associated with burnout in this group through various analytical methods.

2. METHOD

Study design and participants:

An interview-based cross-sectional study was conducted among the pharmacists working at pharmacies in Hue City between January 2023 and June 2023.

In this study, the term "pharmacist" encompasses individuals holding a bachelor's or a postgraduate degree, an associate degree, or an intermediate degree in Pharmacy.

The eligibility criteria for participants were as follows: (a) Pharmacists must have worked at the surveyed pharmacy for 3 months or more, (b) they must have been willing to enroll in this study.

The exclusion criteria comprised instances where the pharmacist could not be reached after three attempts to contact to interview.

Data collection:

The sample size was calculated using the formula for estimating a proportion when the population size is unknown:

$$n = \frac{Z_{(1-\alpha/2)}^2}{d^2} \cdot p \cdot (1 - p)$$

Here, n represents the predicted sample size, p is 0.673 (following the rate of pharmacist's personal burnout in Lobna A. Aljuffali study) (6), d is the precision set at 0.05, is the critical value of 1.96 (for a 95% confidence level). Based on this formula, the required minimum sample size was determined to be 338 pharmacists. In this study, our sample size was 362.

The investigator conducted visits to all pharmacies within Hue City based on a local management website system. Participants were face-to-face interviewed using survey questionnaires, each of which took averaging 30 minutes. Pharmacists who

were unavailable at the time of the initial visit were re-contacted up to three times via phone or direct visits.

Measurement instruments

Data were collected using a Vietnamese interview questionnaire that included information on socio-demographic characteristics, work-related variables, burnout, and knowledge, attitudes, and practices regarding the role of Hue community pharmacists in improving community health.

The Copenhagen Burnout Inventory (CBI) is a 19-item self-reported measure of burnout [12]. The validated Vietnamese version, known as the Copenhagen Burnout Inventory (CBI-V), was used in the current study. It evaluates personal-related (6 items), work-related (7 items), and client-related (6 items) burnout. Ratings were recorded using a five-point Likert scale, where each item was scored from 0 to 100 (0 = never, 25 = seldom, 50 = sometimes, 75 = often, 100 = always). The first three items of the WB domain and the first four items of the CB domain use a separate five-point Likert scale (to a very high degree = 100, to a high degree = 75, somewhat = 50, to a low degree = 25, to a very low degree = 0). Item 7 of the WB domain, which relates to “having enough energy for family and friends during leisure time”, was subject to reversed scoring. Mean item scores were then calculated. If fewer than three questions were answered, the response was considered incomplete. The threshold for categorizing burnout status was set at a total score of ≥ 50 points, with the result considered as ‘having burnout’. Conversely, if the pharmacist’s total burnout score was < 50 points, the result is categorized as “no burnout” [12].

The knowledge level was deemed good if the score was $\geq 7/10$ and poor if $< 7/10$. The attitude level was considered positive if the score was $\geq 28/40$ and negative if $< 28/40$. The practice level was regarded as good if the score was $\geq 21/30$ and poor if $< 21/30$.

This questionnaire was produced and reviewed by two mental health specialists from the Department of Psychiatry, Hue University of Medicine and Pharmacy. These two mental health specialists were extensively trained in recognised institutions and have extensive experience in the mental health field.

To enhance questionnaire reliability, a pretest was conducted on a pilot group of 40 participants. Researchers collected feedback and made adjustments to ensure internal consistency. The CBI-V showed high internal consistency, with Cronbach’s alphas being 0.913.

Statistical Analysis

All data were analyzed using SPSS software version 20.0. Continuous variables were expressed as mean \pm standard deviation if normally distributed, and median and interquartile range in the case of non-normal distribution. Discrete variables were described as percentages. Chi-squared tests were used to determine the difference between variables. A p-value of < 0.05 was considered to be statistically significant. The univariable logistic regression model was determined elements associated with burnout of pharmacists.

Ethics approval

The study was approved by the Institutional Ethical Review Committee of Hue University of Medicine and Pharmacy, Vietnam (Document Number: H2023/028). The study was conducted in the spirit of respecting private information and the decision to join or not to join the study.

3. RESULTS

Most interviewed pharmacists were female, accounting for 87.3%, and the median age of the research group was 31 years old. One hundred and seventy-eight pharmacists had associate degrees (49.2%). The proportion of pharmacists with bachelor’s degrees or higher was 29.8%, approximately the same as those with intermediate-level education. About two-thirds of the interviewed pharmacists were dispensing pharmacists and worked shifts (part-time) at pharmacies, with 66% and 63.5%, respectively. The proportion of pharmacists working in private pharmacies accounts for 65.7%, while only 3.3% work in hospital pharmacies (table 1)

An assessment of the knowledge, attitudes, and practices regarding community health care activities among the pharmacists showed that the proportions with good knowledge, positive attitudes, and good practices were 37.0%, 94.2%, and 68.2%, respectively

(table 1).

Table 1. Characteristics profile of participants (n=362)

Characteristics	n (%)
Gender	Male
	46 (12.7)
	Female
	316 (87.3)
Age * (year)	< 30
	163 (45.0)
	≥ 30
	199 (55.0)
Qualification	Median: 31.0 (25.0-39.0)
	Min: 20 year old, Max: 77 year old
	Intermediate degree
	76 (21.0)
	Associate degree
	178 (49.2)
	Bachelor's / postgraduate degree
	108 (29.8)
Job position	Dispensing Pharmacist
	239 (66.0)
	Pharmacist in Charge/Chief Pharmacist
	123 (34.0)
Experience working in pharmacies*	1- 5 years
	186 (51.4)
	> 5 years
	176 (48.6)
Employment type	Median: 5.0 (3.0-11.3)
	Min: 1 year , Max : 45 years
	Full-time
	132 (36.5)
	Part-time
	230 (63.5)
Having updated professional knowledge in the past year	Yes
	299 (82.6)
	No
	63 (17.4)
Working site	Private pharmacy
	238 (65.7)
	Hospital pharmacy
	12 (3.3)
	Chain pharmacy
	112 (30.9)
Average number of clients per day *	< 50
	125 (34.5)
	≥ 50
	237 (65.5)
Knowledge level	Median: 50.0 (3.0-11.3)
	Min: 10, Max : 600
	Good
	134 (37.0)
	Poor
	228 (63.0)
Attitude level	Positive
	341 (94.2)
	Negative
	21 (5.8)
Practice level	Good
	247 (68.2)
	Poor
	115 (31.8)

* non-normal distribution

Most participants reported having no personal, work, and clients-related burnout with percentages of 87.3%, 87.6%, and 88.4%, respectively (table 3). However, 53.3% of pharmacists still felt tired at work sometimes (Q1). About a third of the pharmacists interviewed reported feeling worn out at the end of the workday. Finding it hard to work with clients (Q14) and feeling that they were giving more than getting back when working with clients (Q17) are two customer-related issues found at significantly high rates: 39.2% and 34.8%, respectively (table 2).

Table 2. Burnout level reported by the CBI-V (n=362)

Content	n(%)				
	Always	Often	Sometimes	Seldom	Never/ almost never
Personal burnout					
Q1. How often do you feel tired?	2 (0.6)	9 (2.5)	193 (53.3)	58 (16)	100 (27.6)
Q2. How often are you physically exhausted?	2 (0.6)	8 (2.2)	96 (26.5)	98 (27.1)	158 (43.6)
Q3. How often are you emotionally exhausted?	1 (0.3)	8 (2.2)	86 (23.8)	99 (27.3)	168 (46.4)
Q4. How often do you think: "I can't take it anymore"?	2 (0.6)	4 (1.1)	54 (14.9)	79 (21.8)	223 (61.6)
Q5. How often do you feel worn out?	3 (0.8)	2 (0.6)	115 (31.8)	97 (26.8)	145 (40.1)
Q6. How often do you feel weak and susceptible to illness?	3 (0.8)	7 (1.9)	103 (28.5)	103 (28.5)	146 (40.3)
Work-related burnout					
Q7. Is your work emotionally exhausting?	2 (0.6)	11 (3.0)	79 (21.8)	84 (23.2)	186 (51.4)
Q8. Do you feel burnt out because of your work?	2 (0.6)	5 (1.4)	83 (22.9)	91 (25.1)	181 (50.0)
Q9. Does your work frustrate you?	2 (0.6)	6 (1.7)	114 (31.5)	96 (26.5)	144 (39.8)
Q10. Do you feel worn out at the end of the working day?	2 (0.6)	13 (3.6)	139 (38.4)	102 (28.2)	106 (29.3)
Q11. Are you exhausted in the morning at the thought of another day at work?	2 (0.6)	6 (1.7)	74 (20.4)	97 (26.8)	183 (50.6)
Q12. Do you feel that every working hour is tiring for you?	4 (1.1)	6 (1.7)	49 (13.5)	91 (25.1)	212 (58.6)
*Q13. Do you have enough energy for family and friends during leisure time?	134 (37.0)	85 (23.5)	90 (24.9)	41 (11.3)	12 (3.3)
Client-related burnout					
Q14. Do you find it hard to work with clients?	2 (0.6)	12 (3.3)	142 (39.2)	84 (23.2)	122 (33.7)
Q15. Do you find it frustrating to work with clients?	1 (0.3)	8 (2.2)	90 (24.9)	100 (27.6)	163 (45.0)
Q16. Does it drain your energy to work with clients?	1 (0.3)	5 (1.4)	64 (17.7)	108 (29.8)	184 (50.8)
Q17. Do you feel that you give more than you get back when you work with clients?	10 (2.8)	16 (4.4)	126 (34.8)	65 (18.0)	145 (40.1)
Q18. Are you tired of working with clients?	2 (0.6)	8 (2.2)	101 (27.9)	87 (24.0)	164 (45.3)
Q19. Do you sometimes wonder how long you will be able to continue working with clients?	3 (0.8)	5 (1.4)	63 (17.4)	86 (23.8)	205 (56.6)

* This item is reversed score.

Table 3. Burnout status (n=362)

Burnout	Score	n (%)		
		Personal burnout	Work-related burnout	Client-related burnout
Yes	≥ 50	46 (12.7)	45 (12.4)	42 (11.6)
No	< 50	316 (87.3)	317 (87.6)	320 (88.4)

Exploring factors related to professional burnout in the participants found no statistically significant differences of personal burnout between characteristic groups (table 4). However, the proportion of pharmacists who had professional burnout was significantly higher in negative attitudes groups with $p=0.034$ (table 5). Meanwhile, burnout related to customers recorded statistically significant differences between groups, particularly in terms of working site ($p=0.009$), the average number of guests per day ($p=0.025$), the knowledge level ($p=0.004$) and the attitude level ($p=0.024$) of participating pharmacists (table 6).

Table 4. Factors associated with personal burnout (n=362)

Characteristics		Burnout	No burnout	p
Gender	Male	6 (13.0)	40 (87.0)	0.942
	Female	40 (12.7)	276 (87.3)	
Age * (year)	< 30	18 (11.0)	145 (89.0)	0.390
	≥ 30	28 (14.1)	171 (85.9)	
Qualification	Intermediate degree	13 (17.1)	63 (82.9)	0.281
	Associate degree	18 (10.1)	160 (89.9)	
	Bachelor's / postgraduate degree	15 (13.9)	93 (86.1)	
Job position	Dispensing Pharmacist	30 (12.6)	209 (87.4)	0.902
	Pharmacist in Charge/Chief Pharmacist	16 (13.0)	107 (87.0)	
Experience working in pharmacies*	1- 5 years	19 (10.2)	167 (89.8)	0.143
	> 5 years	27 (15.3)	149 (84.7)	
Employment type	Full-time	17 (12.9)	115 (87.1)	0.941
	Part-time	29 (12.6)	201 (87.4)	
Having updated professional knowledge in the past year	Yes	35 (11.7)	264 (88.3)	0.213
	No	11 (17.5)	52 (82.5)	
Working site	Private pharmacy	35 (14.7)	203 (85.3)	0.165*
	Hospital pharmacy	0 (0.0)	12 (100)	
	Corporate pharmacy chain	11 (9.8)	101 (90.2)	
Average number of clients per day *	< 50	21 (16.8)	104 (83.2)	0.090
	≥ 50	25 (10.5)	212 (89.5)	
Knowledge level	Good	17 (12.7)	117 (87.3)	0.993
	Poor	29 (12.7)	199 (87.3)	
Attitude level	Positive	41 (12.0)	300 (88.0)	0.165*
	Negative	5 (23.8)	16 (76.2)	

Characteristics		Burnout	No burnout	p
Practice level	Good	29 (11.7)	218 (88.3)	0.419
	Poor	17 (14.8)	98 (85.2)	

*: Fisher's exact test

Table 5. Factors associated with work-related burnout (n=362)

Characteristics		Burnout	No burnout	p
Gender	Male	9 (19.6)	37 (80.4)	0.116
	Female	36 (11.4)	280 (88.6)	
Age * (year)	< 30	19 (11.7)	144 (88.3)	0.686
	≥ 30	26 (13.1)	173 (86.9)	
Qualification	Intermediate degree	10 (13.2)	66 (86.8)	0.974
	Associate degree	22 (12.4)	156 (87.6)	
	Bachelor's / postgraduate degree	13 (12.0)	95 (88.0)	
Job position	Dispensing Pharmacist	29 (12.1)	210 (87.9)	0.811
	Pharmacist in Charge/Chief Pharmacist	16 (13.0)	107 (87.0)	
Experience working in pharmacies*	1- 5 years	22 (11.8)	164 (88.2)	0.721
	> 5 years	23 (13.1)	153 (86.9)	
Employment type	Full-time	19 (14.4)	113 (85.6)	0.391
	Part-time	26 (11.3)	204 (88.7)	
Having updated professional knowledge in the past year	Yes	35 (11.7)	264 (88.3)	0.362
	No	10 (15.9)	53 (84.1)	
Working site	Private pharmacy	32 (13.4)	206 (86.6)	0.682*
	Hospital pharmacy	1 (8.3)	11 (91.7)	
	Corporate pharmacy chain	12 (10.7)	100 (89.3)	
Average number of clients per day *	< 50	21 (16.8)	104 (83.2)	0.067
	≥ 50	24 (10.1)	213 (89.8)	
Knowledge level	Good	17 (12.7)	117 (87.3)	0.910
	Poor	28 (12.3)	200 (87.7)	
Attitude level	Possitive	39 (11.4)	302 (88.6)	0.034*
	Negative	6 (28.6)	15 (71.4)	
Practice level	Good	29 (11.7)	218 (88.3)	0.560
	Poor	16 (13.9)	99 (86.1)	

*: Fisher's exact test

Table 6. Factors associated with client-related burnout (n=362)

Characteristics		Burnout	No burnout	p
Gender	Male	9 (19.6)	37 (80.4)	0.071
	Female	33 (10.4)	283 (89.6)	

Characteristics		Burnout	No burnout	p
Age * (year)	< 30	14 (8.6)	149 (91.4)	0.105
	≥ 30	28 (14.1)	171 (85.9)	
Qualification	Intermediate degree	9 (11.8)	67 (88.2)	0.402
	Associate degree	17 (9.6)	161 (90.4)	
	Bachelor's / postgraduate degree	16 (12.5)	92 (85.2)	
Job position	Dispensing Pharmacist	27 (11.3)	212 (88.7)	0.800
	Pharmacist in Charge/Chief Pharmacist	15 (12.2)	108 (87.8)	
Experience working in pharmacies*	1- 5 years	20 (10.8)	166 (89.2)	0.604
	> 5 years	22 (12.5)	154 (87.5)	
Employment type	Full-time	20 (15.2)	112 (84.8)	0.110
	Part-time	22 (9.6)	208 (90.4)	
Having updated professional knowledge in the past year	Yes	36 (12.0)	263 (88.0)	0.571
	No	6 (9.5)	57 (90.5)	
Working site	Private pharmacy	25 (10.5)	213 (89.5)	0.009*
	Hospital pharmacy	5 (41.7)	7 (58.3)	
	Corporate pharmacy chain	12 (10.7)	100 (89.3)	
Average number of clients per day *	< 50	21 (16.8)	104 (83.2)	0.025
	≥ 50	21 (8.9)	216 (91.1)	
Knowledge level	Good	24 (17.9)	110 (82.1)	0.004
	Poor	18 (7.9)	212 (92.1)	
Attitude level	Possitive	36 (10.6)	305 (89.4)	0.024*
	Negative	6 (28.6)	15 (71.4)	

Characteristics		Burnout	No burnout	p
Practice level	Good	27 (10.9)	220 (89.1)	0.559
	Poor	15 (13.0)	100 (87.0)	

*: Fisher's exact test

4. DISCUSSION

The burnout in community pharmacists is a serious problem that has emerged recently because of its negative impacts, not only on the physical and mental well-being of healthcare workers but also on the quality of pharmaceutical care at pharmacies. In Vietnam, the role of community pharmacists is more and more important. Along with that, they are under more pressure in the context of increasing community's health care needs, changes in disease patterns as well as fierce competition in the pharmaceutical retail sector.

This study was conducted on 362 community pharmacists by using the CBI scale to evaluate their level of burnout. This tool provides a multidimensional assessment of the personal, work, and customer-related aspects that contribute to pharmacists' burnout. The result of this study showed that most participants reported having no professional burnout related to personal, work, and clients with percentages of 87.3%, 87.6%, and 88.4%, respectively. This result was significantly different from the study of Lobna A. Aljuffali et al. (2022), in which around 60% of pharmacists were found to have professional burnout levels and most respondents had higher scores in the personal part of the CBI, approximately 70% [6]. Another systematic review by Jodie Dee et al. (2023) on data extracted from 19 articles across eight countries showed that more than half (51%) of pharmacists

were experiencing burnout, but the burnout prevalence estimates ranged from 5 to 75%. Some studies reported burnout rates of 10% or lower, that was quite similar to our study results, while the rest of the studies reported estimates of 49% or higher [14]. The research conducted by Alameddine M et al. (2022) along with the one done by Youssef D et al. (2021) which utilised the CBI reported that 56.7% and 77.8% of community pharmacist participants had personal burnout, 58.2% and 76.8% had work-related burnout and 57% and 89.7% had client-related burnout, respectively [15,16]. Once more time, the comparison reflected the significant heterogeneity between many different studies. This could be due to some reasons such as geographies and the professional setting, the baseline of participants' characteristics, the inconsistency in assessment tool (i.e. CBI, MBI, Pro.QOL or OBI) as well as the context in which the research was conducted. The burnout prevalence has increased and stabilised at a high level since 2020, when Covid-19 was declared a pandemic, with most studies in this time period reporting burnout rates of 55% or higher [14]. Meanwhile, our research was conducted in the post-Covid period, so the pressure on pharmacists has been greatly reduced.

Our study also found that 53.3% of pharmacists still felt tired at work sometimes, approximately 40% of participants reported feeling worn out at the end of the workday and two client-related issues found at significantly high rates are finding it hard to work with clients and feeling that they giving more than getting back when working with clients (39.2% and 34.8%, respectively). This result was quite similar to study of Lobna A. Aljuffali et al. (2022) which explored that pharmacist pertaining to feeling tired (personal), feeling worn out (work-related), and feeling underappreciated (patient-related) had the maximum effect on their burnout levels [6]. This shows important dimensions that should be focused to improve in the future because that helps to reduce not only the negative effects of burnout on quality of pharmaceutical care but also the frequency of medication errors at community pharmacies.

When exploring factors related to professional burnout, we found that there was no statistically significant differences in personal burnout between characteristic groups. However, the negative attitude is the main factors associated with higher work-related burnout levels among participants with $p=0.034$, respectively. Meanwhile, burnout related to customers recorded statistically significant

differences between groups, particularly in terms of working site ($p=0.009$), the average number of guests per day ($p=0.025$), the knowledge level ($p=0.004$) and the attitude level ($p=0.024$) of participating pharmacists. The new point of our study is to analyze the relationship between the knowledge, attitude as well as practice of community pharmacists and the level of burnout, while previous studies have not mentioned these issues. Because along with the impact of objective factors, subjective factors of the pharmacists themselves will also affect their psychological status and thereby indirectly affect the level of assessment of burnout. Similarly, the study of Lobna A. Aljuffali et al. (2022) also showed that male gender and higher number of customers are the factors correlated with high burnout levels in addition to younger age and less years of experience [6]. Working in a community pharmacy requires patience and skilful communication to effectively engage with customers. This is also a job that requires little movement, so it is likely to be more suitable for women. The demographic characteristics in our survey also showed that nearly 90% of participants were female and working in dispensing positions. Perhaps that is the reason why men often feel more mentally pressured when working at a community pharmacy. Besides, nowadays, the competition in the pharmaceutical retail sector is becoming fierce and customer demands are also increasing, so community pharmacists may feel more tired when always trying to meet client's requirements. Therefore, in the context of a high number of customers, employees will be more susceptible to pressure and exhaustion. Additionally, the systematic review conducted by Jodie Dee et al. (2023) identified other associated risk factors of burnout which included longer working hours, less professional experience, excessive workload and poor work/life balance. There was also opinion that education and training were associated with lower rates of burnout in this review [14] but in our study, we did not find the statistically significant difference between the group having updated professional knowledge in the past year and not updated one, with $p>0.05$ in personal burnout, work-related burnout as well as client-related burnout.

5. CONCLUSION

Burnout can negatively affect the mental health and well-being of community pharmacists, leading not only to financial consequences due to impaired work productivity but also to a decline in the quality

of pharmaceutical care. It is essential to focus on improving pharmacists' attitudes when interacting with customers in the future, as this can help mitigate the negative effects of burnout on pharmaceutical care quality and reduce the frequency of medication errors in community pharmacies.

6. ACKNOWLEDGEMENTS

The authors wish to thank their colleagues at Hue University of Medicine and Pharmacy, Hue University, for their support in conducting the research, as well as the pharmacists who participated in this study.

Fundings: This research (DHH2023-04-183) was supported by a grant from Hue University.

REFERENCES

1. Sousa Pinto G, Hung M, Okoya F, Uzman N. FIP's response to the COVID-19 pandemic: Global pharmacy rises to the challenge. *Res Soc Adm Pharm* [Internet]. 2021 Jan [cited 2024 Jan 11];17(1):1929–33. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S1551741120307440>
2. Youssef D, Abou-Abbas L, Youssef J. Feeling the burn in the era of COVID-19: cross-cultural adaptation and validation of the Arabic version of the Copenhagen Burnout Inventory among community pharmacists. *J Pharm Policy Pract*. 2022;15(21).
3. World Health Organization. World health statistics 2019: monitoring health for the SDGs, sustainable development goals [Internet]. Geneva: World Health Organization; 2019 [cited 2024 Jan 11]. 120 p. Available from: <https://iris.who.int/handle/10665/324835>
4. Dawn C. Work-related stress: the hidden pandemic in pharmacy. *Pharm J* [Internet]. 2021; Available from: <https://pharmaceutical-journal.com/article/news/proportion-of-pharmacists-reporting-high-stress-levels-doubles-in-2021-finds-survey>
5. Jones AM, Clark JS, Mohammad RA. Burnout and secondary traumatic stress in health-system pharmacists during the COVID-19 pandemic. *Am J Health Syst Pharm* [Internet]. 2021 Apr 22 [cited 2024 Jan 11];78(9):818–24. Available from: <https://academic.oup.com/ajhp/article/78/9/818/6134525>
6. Aljuffali LA, Alshabanah MO, Almalag HM. Cross-sectional study to evaluate burnout among pharmacy staff in Saudi Arabia during COVID-19 pandemic. *Saudi Pharm J* [Internet]. 2022 Apr [cited 2024 Jan 11];30(4):440–53. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S131901642200024X>
7. Barelllo S, Palamenghi L, Graffigna G. Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic. *Psychiatry Res* [Internet]. 2020 Aug [cited 2024 Jan 11];290:113129. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0165178120311975>
8. Di Monte C, Monaco S, Mariani R, Di Trani M. From Resilience to Burnout: Psychological Features of Italian General Practitioners During COVID-19 Emergency. *Front Psychol* [Internet]. 2020 Oct 2 [cited 2024 Jan 11];11:567201. Available from: <https://www.frontiersin.org/article/10.3389/fpsyg.2020.567201/full>
9. Lange M, Joo S, Couette PA, De Jaegher S, Joly F, Humbert X. Impact on mental health of the COVID-19 outbreak among community pharmacists during the sanitary lockdown period. *Ann Pharm Fr* [Internet]. 2020 Nov [cited 2024 Jan 11];78(6):459–63. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0003450920301127>
10. Gernant SA, Nigro SC, Cruess DG, Smith M, Rickles NM. Age, gender, and setting's effect on community pharmacists' stress and confidence in the COVID-19 pandemic. *Explor Res Clin Soc Pharm* [Internet]. 2023 Mar [cited 2024 Jan 11];9:100239. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S2667276623000203>
11. Asmaa AH, Farah A, Shriefa AM. Are pharmacists well equipped to deal with global health emergencies? Burnout during COVID-19. *J Pharm Health Serv Res*. 2022;13:9–16.
12. Kristensen TS, Borritz M, Villadsen E, Christensen KB. The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work Stress* [Internet]. 2005 Jul [cited 2024 Jan 11];19(3):192–207. Available from: <http://www.tandfonline.com/doi/abs/10.1080/02678370500297720>
13. Fadare OO, Andreski M, Witry MJ. Validation of the Copenhagen Burnout Inventory in Pharmacists. *Innov Pharm* [Internet]. 2021 Apr 5 [cited 2024 Jan 11];12(2):4. Available from: <https://pubs.lib.umn.edu/index.php/innovations/article/view/3699>
14. Dee J, Dhuhaibawi N, Hayden JC. A systematic review and pooled prevalence of burnout in pharmacists. *Int J Clin Pharm*. 2023 Oct 1;45(5):1027–36.
15. Youssef D, Youssef J, Hassan H, Abou-Abbas L. Prevalence and risk factors of burnout among Lebanese community pharmacists in the era of COVID-19 pandemic: results from the first national cross-sectional survey. *J Pharm Policy Pract*. 2021 Dec 24;14(1):111.
16. Alameddine M, Bou-Karroum K, Hijazi MA. A national study on the resilience of community pharmacists in Lebanon: a cross-sectional survey. *J Pharm Policy Pract*. 2022 Jan 28;15(1):8.