ORIGINAL ARTICLE

The Prevalence of Burnout and Its Predictors among Pharmacists Working in Government Hospitals in Selangor

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ABSTRACT

Introduction: To determine the prevalence and predictors of burnout (personal, work-related and client-related) among pharmacists in government hospitals in Selangor. **Methods:** An analytical cross-sectional study was conducted among 376 pharmacists working in five government hospitals in Selangor. The data was collected via email using Google form containing self-administered questionnaires. Frequency and percentage of variables were obtained using descriptive statistics. Chi square was utilized to identify the relationship between factors. The significant predictors were determined using multiple logistic regression analysis. **Results:** Prevalence of burnout among pharmacist was reported as 52.9% (Personal), 66.0% (Work-related) and 47.1% (Client-related). The significant predictors of personal burnout were gender (AOR 2.24, 95% CI 1.29 to 3.89), working hours per week (AOR 2.92, 95% CI 1.60 to 5.32), job satisfaction (AOR 13.00, 95% CI 3.37 to 50.16) and depression (AOR 3.33, 95% CI 1.98 to 5.61). The significant predictors of work-related burnout for male was from work stress (AOR 9.10, 95% CI 3.12 to 26.60) and anxiety (AOR 5.91, 95% CI 2.03 to 17.25) while for female was from anxiety (AOR 5.91, 95% CI 2.86 to 12.23) and self-esteem (AOR 5.88, 95% CI 1.68 to 20.56). For client-related burnout, working hours per week (AOR 2.44, 95% CI 1.39 to 4.28), job satisfaction (AOR 3.91, 95 % CI 1.49 to 10.27) and anxiety (AOR 2.61, 95% CI 1.57 to 4.32) were the significant predictors. **Conclusion:** Burnout among pharmacists is crucial to be brought to highlight and it is necessary to perform appropriate interventions for managing the burnout.

Keywords: Burnout, Pharmacist, Stress, Anxiety, Depression

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INTRODUCTION

Burnout is defined as a syndrome conceptualized as resulting from an inability to cope with long-term workplace stress which is characterized by lack of energy, negative feeling related to work and lower work efficacy (1). Personal burnout is the degree of fatigue and exhaustion related to physical and psychological aspect experienced by an individual. The degree of fatigue and exhaustion related to one's physical and psychological aspect in connection with work is defined as work-related burnout. Client-related burnout is the degree of fatigue and exhaustion related to an individual's physical and psychological aspect resulting from work with clients such as patients (2). International Classification of Diseases (ICD-11) has classified burnout as an occupational phenomenon (1). Results from few previous researches revealed that healthcare professions are associated with highest risk to burnout (3-4). Pharmacists in South Africa exhibited low to moderate levels of burnout while 56.2% of French pharmacists reported to have experienced burnout (5, 6). Besides, (7) Bhagavathula et al (2018) reported that the overall prevalence of burnout was 13.7% among healthcare professionals in Ethiopia. Highest level of burnout was observed in 14% of the professionals in the pharmaceutical industry in the Republic of Serbia (8). In Malaysia, the overall burnout prevalence among healthcare workers was reported as 53.8% (personal), 39.1% (work-related) and 17.4% (client-related) (9).

Pharmacists are mainly responsible to ensure optimum drug therapy which includes the preparation, supply and control of medicines as well as being an informative resource to provide advice to prescribers and users of pharmaceutical products. Regulatory control and drug management, hospital pharmacy, community pharmacy (retail settings), pharmaceutical industry, research activities, academics, and training of other health workers are the main fields of pharmacist (10). Pharmacists spend most of their time being in contact with patients which could probably lead to more fatigue and put them at high risk of burnout (11). Emotional

exhaustion and depersonalization was encountered at moderate levels by pharmacists, especially those working as frontliners (12). Burnout in pharmacists can result in work frustration, a lack of engagement and responsibility within the organization, and the desire to quit from the profession. Additionally, pharmacists who are burned out often associated with issues such as increased absenteeism, staff loss, decreased efficiency and less productivity at work (13). Previous literatures reported that depression, anxiety and work related stressors were found to be significantly associated with burnout among pharmacists (6,14). It is crucial to identify and characterize burnout among pharmacists because it can lead to substantial negative consequences for both providers and patient care. Burnout at moderate to high level is linked to lower patient care outcome and more medical errors. Burnout among healthcare staffs also affect decision making, patient safety and clinical outcomes (15). In Malaysia, several local published researches have investigated burnout among healthcare professionals within the region for doctors and nurses but mostly international studies exist on burnout among pharmacists.

Recognizing and addressing potential burnout indicators and risk factors on a system and profession-wide level can help to reduce work-related pressures and boost satisfaction and fulfilment of healthcare providers (16). The ratio of pharmacists to population based on 32.6 million population of Malaysia is 1:1,858. There was an increase of 1.2% in the number of outpatient prescriptions received in hospitals and health clinics in 2019 (17). Referring to (17) Pharmacy Program Statistics Report (2019), number of medication counselling conducted in Ministry of Health (MOH) facilities in Selangor was 294, 896; total medicine information enquiry received by MOH facilities in Selangor was 47,439 and total Adverse Drug Reaction (ADR) reported in MOH facilities in Selangor was 3,354, which is the highest compared to others states in Malaysia. Besides, Selangor is one of the location with the highest health expenditure (18). The workload among pharmacists in Selangor found to be high based on these statistics reported. Such higher workload and job tension has been linked to burnout (19). Therefore, this study is aimed to measure the prevalence and predictors of burnout among pharmacist in government hospitals in Selangor. The findings of this study may be used in potential intervention studies to help mitigate burnout. This will help pharmacists understand burnout and why it occurs, as well as how to deal with their condition and the consequences of burnout.

MATERIALS AND METHODS

Study Design and Setting

A cross sectional study involving 376 pharmacists was conducted from March 2020 to September 2020. There are twelve government hospitals in Selangor with eight hospitals categorized as specialist hospitals. Multistage random sampling using fishbowl technique was used to select these five out of eight hospitals based on the highest number of pharmacists in government hospitals in Selangor. The list of pharmacists was obtained from the Pharmacy Departments of the particular hospitals. Sample size required from each hospital was calculated using probability proportionate to size technique. Sample size required was 376 based on the Lemeshow & Hosmer formula for proportion (20). Pharmacists who worked in the selected hospital for more than or equal to 6 months were included in this study. Pharmacists who were on maternity, medical or study leave during the study period were excluded. Eligible participants were selected via simple random sampling method from the list given by hospitals. Google form containing self-administered questionnaire together with digital consent was sent to the selected participants via email since this study was conducted during the period of Movement Control Order (MCO). Participants were given two weeks to fill in the online questionnaire. Two reminder emails were sent to the respondents who did not provide response within the given time frame. Completed responses were recorded in google spreadsheet.

Study tool

Six questionnaires were used for data collection. Copenhagen Burnout Inventory (CBI) is a tool consists of personal, work-related and client-related burnout scales which measure burnout related to personal life, work and service to clients. It consists of three subscales namely personal burnout (6 items), work-related burnout (7 items), and client-related burnout (6 items). Twelve items have frequency responses on a five-point Likert scale format which ranges from ‘100 (always), 75 (often), 50 (occasionally), 25 (rarely) and 0 (never/almost never) while seven items have strength response options ranging from ‘a very low degree’ to ‘to a very high degree’. Burnout is classified as moderate if the score is 50 to 74, high if the score is 75–99, and serious if the score is 100. The calculated mean of the scale scores was used to determine the score for each scale. An average burnout score of ≥50, calculated for each of the individual sections suggests a diagnosis of burnout (2), which was used in this study. Burnout is measured in each scale separately and three scales can be applied independently in multiple domains (2). English version of CBI subscales showed high Cronbach’s alpha reliability coefficients as 0.90 for personal, 0.88 for work-related and 0.89 for client related (21).

Job Satisfaction Survey (JSS) is a 36 item, nine facetted scale to evaluate attitudes of an employee about the job and the job characteristics. The JSS employs a summated rating scale response format with six response options (disagree strongly, disagree moderately, disagree slightly, agree slightly, agree moderately, and agree strongly) that are rated on a scale of 1 to 6. Total score of job satisfaction is also calculated as the sum of all

item values. Summed scores for total items ranges as 36 to 108 for dissatisfaction, 109 to 143 for ambivalent and 144 to 216 for satisfaction (22). English version of the instrument showed an average of 0.70 for internal consistency and has been well investigated for reliability and validity (22).

HSE Management Standards Indicator Tool (HSE MS-IT) is a 35-items questionnaire in a five-point Likert-type scale relating to seven primary stressors at work namely demands, control, managers' support, peer support, relationships, role and change. Data obtained were entered into Microsoft Excel analysis tool of HSE Management Standards Analysis Tools version 2013. The outcome of stress contributor is interpreted in percentile using colours key as Green indicates very good stress factors (≥ 80th percentile), Aqua indicates good stress factors (≥ 50th & < 80th percentile), Yellow (≥ 20th & < 50th percentile) indicates mild stress factor and Red (<20th percentile) indicates the most stressful factor. The respondent is considered stressful if the results show four out of seven factors which are rated as stress or very stress (23). (24) Edwards et al (2008) reported the overall reliability coefficient for English version of the scale as 0.92.

Generalized Anxiety Disorder-7 Questionnaire (GAD-7) is a scale developed for generalized anxiety disorder diagnosis. Each of the seven items in the scale consists of scores from 0 to 3 and the total scale score ranges from 0 to 21 with scores representation of 5 (mild), 10 (moderate), and 15 (severe) anxiety symptoms. The recommended cut-off point for this scale to determine the presence or absence of clinically significant anxiety is eight and above (25), as used in this study. English version of this tool had an excellent internal and test–retest reliability, and found to be a valid, useful and efficient tool for identifying cases of GAD and measuring its severity in clinical practice and research field (25).

Patient Health Questionnaire (PHQ-9) is a self-administered measure to determine the presence of depression in the past two weeks and it consists of nine questions constructed in accordance to the nine DSM-IV diagnostic criteria for major depression (26). Each of the nine items in the PHQ-9 consists of scores from 0 to 3 and the total score ranges from 0 to 27 with scores representation of 5 (mild), 10 (moderate), 15 (moderately severe) and 20 (severe), in measuring the severity of depression. A score of ten and above is used as a cut-off point in defining patients as having clinically significant depression (26), as used in this study. English version of PHQ-9 is found to have internal reliability with Cronbach's alpha value of 0.89 as well as good test-retest reliability (26).

Rosenberg Self-esteem Scale (RSES) is an instrument for evaluating individual self-esteem (27). It is a 10-item, 4-point Likert scale format which ranges from strongly agree to strongly disagree statements that measure the overall appraisal of self-worth as an individual by taking into account of both positive and negative feelings about the self. Higher scores indicate higher self-esteem on a continuous scale with 0 as the minimum total score and 30 as the maximum total score (27). This study categorized scores between 15 and 25 as normal range while scores less than 15 as low self-esteem, as suggested by previous study (28). English version of the scale had a high reliability with internal consistency of 0.77 and alpha coefficients ranging from 0.72 to 0.87 (27). All the questionnaires were validated in Malay and English language. Validated English version questionnaires were utilized in this study.

Data analysis

SPSS version 25 was used to analyse the data. Frequency and percentage of variables were obtained using descriptive statistics. Chi square was used to identify the relationship between variables and level of significance was set at $p<0.05$. Variables with $p<0.25$ were included in the multiple logistic regression analysis to identify the predictors of burnout. In multiple logistic regression analysis, statistical or stepwise regression technique was used. The results were presented in the form of odds ratio with 95% CI and two-sided $p<0.05$ was considered as statistically significant. The area under the Receiver Operating Characteristic curve was used to assess model performance which measured the model discrimination. Multicollinearity was checked to detect for any intercorrelations among the predictors.

Ethics consideration

Ethics approval to conduct this study was attained from the Medical Research Ethics Committee (MREC) Malaysia (NMRR-19-1737-48206) and the Ethics Committee for Research Involving Human Subjects Universiti Putra Malaysia (Reference number JKEUPM-2019-391). Permission from the Director and Head of Pharmacy Department of each hospital was also obtained before conducting the research. Digital consent was obtained from each pharmacist who involved in this research.

RESULTS

The response rate was 83% where 312 out of 376 pharmacists completed the questionnaire. Table I shows the socio-demographic characteristics of the respondents. Overall, 62.2% of the respondents fall into the age group of 31-40 years old. Approximately 67.3% of the respondents were females and 32.7% were males. The number of Malay respondents were higher (43.3%), followed by Chinese (37.5%), Indians (14.4%), and others (4.8%). Married respondents (71.5%) contributed more compared to the unmarried ones. Most pharmacists had degree (85.6%), while 13.1% had finished masters and 1.3% had PhD. Most of them had earnings in the range of RM 5001-10000 (61.2%). In terms of work setting, 43.3% were working

Table I: Socio-demographic profile of the respondents (N=312)

Variables	Frequency	Percentages (%)
Age		
≤30	106	34
31-40	194	62.2
>40	12	3.8
Total	312	100
Gender		
Male	102	32.7
Female	210	67.3
Total	312	100
Race		
Malay	135	43.3
Chinese	117	37.5
Indian	45	14.4
Others	15	4.8
Total	312	100
Marital status	223	71.5
Married	89	28.5
Single	0	0
Divorced/Widowed	312	100
Total		
Education level		
Degree	267	85.6
Masters	41	13.1
PhD	4	1.3
Total	312	100
Monthly income		
≤5000	106	34
5001-10000	191	61.2
>10000	15	4.8
Total	312	100
Work setting		
Outpatient pharmacy	135	43.3
Inpatient pharmacy	92	29.5
Clinical settings/ward	46	14.7
Others (TPN/TDM/CDR/DIS/Store/ Manufacturing)	39	12.5
Total	312	100
Working experience		
>5years	225	72.1
1-5 years	80	25.6
≥6 months - <1 year	7	2.2
Total	312	100
Working hours per week		
≤45	215	68.9
>45	97	31.1
Total	312	100

in outpatient pharmacy followed by 29.5% in inpatient pharmacy, 14.7% in clinical settings/ward and 12.5% in other settings (Total Parenteral Nutrition (TPN)/ Therapeutic Drug Monitoring (TDM)/ Cytotoxic Drug Reconstitution (CDR)/ Drug Information System (DIS)/ Store/ Manufacturing). Majority of them had working experience >5 years (72.1%) and working hours per week of ≤45 (68.9%).

Table II shows that 10.6% pharmacists had job dissatisfaction and 55.8% pharmacists had work stress. Approximately 50.6% pharmacists reported anxiety while 48.7% pharmacists reported depression. On the other hand, 19.9% pharmacists had low self-esteem.

Table II: Job satisfaction, work stress, anxiety, depression and self-esteem among the respondents (N=312)

Variables	Frequency	Percentages (%)
Job satisfaction		
Satisfaction	88	28.2
Ambivalent	191	61.2
Dissatisfaction	33	10.6
Total	312	100
Work stress		
No	138	44.2
Yes	174	55.8
Total	312	100
Anxiety		
No	154	49.4
Yes	158	50.6
Total	312	100
Depression		
No	160	51.3
Yes	152	48.7
Total	312	100
Self-esteem		
Normal	250	80.1
Low	62	19.9
Total	312	100

Table III shows the prevalence of burnout among pharmacist which was reported as 52.9% (Personal), 66.0% (Work-related) and 47.1% (Client-related). Table IV, V and VI show the factors associated with personal, work-related and client-related burnout, respectively. Bivariate analysis showed that nine factors were statistically significantly associated with personal burnout in this study, including: gender, marital status, working experience, working hours per week, job satisfaction, work stress, anxiety, depression and self-esteem. Eight factors were statistically significantly associated with work-related burnout in this study. These factors included gender, marital status, working hours per week, job satisfaction, work stress, anxiety, depression and self-esteem. Factors which were statistically significantly associated with client-related burnout in this study were working hours per week, job satisfaction, work stress, anxiety, depression and self-esteem ($p<0.05$). Variables with p-value <0.25 were selected for multiple logistic regression analysis to determine the predictors of burnout based on the recommendations by Hosmer and Lemeshow since

Table III: Prevalence of burnout among the respondents (N=312)

Variables	Frequency	Percentages (%)
Personal burnout	165	52.9
Yes	147	47.1
No	312	100
Total		
Work-related burnout	206	66.0
Yes	106	34.0
No	312	100
Total		
Client-related burnout	147	47.1
Yes	165	52.9
No	312	100
Total		

Table IV: Association between socio-demographic characteristics, job satisfaction, work stress, anxiety, depression, self-esteem and personal burnout among respondents

Variables	Personal burnout		p-value
	Yes	No	
Age			
≤30	47 (44.3%)	59 (55.7%)	
31-40	113 (58.2%)	81 (41.8%)	0.051
>40	5 (41.7%)	7 (58.3%)	
Total	165 (52.9%)	147 (47.1%)	
Gender			
Male	40 (39.2%)	62 (60.8%)	
Female	125 (59.5%)	85 (40.5%)	0.001*
Total	165 (52.9%)	147 (47.1%)	
Race			
Malay	69 (51.1%)	66 (48.9%)	
Chinese	59 (50.4%)	58 (49.6%)	
Indian	29 (64.4%)	16 (35.6%)	0.412
Others	8 (53.3%)	7 (46.7%)	
Total	165 (52.9%)	147 (47.1%)	
Marital status			
Married	128 (57.4%)	95 (42.6%)	
Single	37 (41.6%)	52 (58.4%)	0.011*
Divorced/Widowed	0 (0%)	0 (0%)	
Total	165 (52.9%)	147 (47.1%)	
Education level			
Degree	137 (51.3%)	130 (48.7%)	
Masters	27 (65.9%)	14 (34.1%)	0.118
PhD	1 (25.0%)	3 (75.0%)	
Total	165 (52.9%)	147 (47.1%)	
Monthly income			
≤5000	50 (47.2%)	56 (52.8%)	
5001-10000	108 (56.5%)	83 (43.5%)	0.266
>10000	7 (46.7%)	8 (53.3%)	
Total	165 (52.9%)	147 (47.1%)	
Work setting			
Outpatient pharmacy	74 (54.8%)	61 (45.2%)	
Inpatient pharmacy	50 (54.3%)	42 (45.7%)	
Clinical settings/ward	26 (56.5%)	20 (43.5%)	0.286
Others (TPN/TDM/CDR/ DIS/ Store/ Manufacturing)	15 (38.5%)	24 (61.5%)	
Total	165 (52.9%)	147 (47.1%)	
Working experience	129 (57.3%)	96 (42.7%)	0.013*
>5years	35 (43.75%)	45 (56.25%)	
1-5 years	1 (14.3%)	6 (85.7%)	
≥6 months - <1 year	165 (52.9%)	147 (47.1%)	
Total			
Working hours per week			
≤45	92 (42.8%)	123 (57.2%)	
>45	73 (75.3%)	24 (24.7%)	<0.001**
Total	165 (52.9%)	147 (47.1%)	
Job satisfaction			
Satisfaction	27 (30.7%)	61 (69.3%)	
Ambivalent	108 (56.5%)	83 (43.5%)	<0.001**
Dissatisfaction	30 (90.9%)	3 (9.1%)	
Total	165 (52.9%)	147 (47.1%)	
Work stress			
No	62 (44.9%)	76 (55.1%)	
Yes	103 (59.2%)	71 (40.8%)	0.012*
Total	165 (52.9%)	147 (47.1%)	
Anxiety			
No	59 (38.3%)	95 (61.7%)	
Yes	106 (67.1%)	52 (32.9%)	<0.001**
Total	165 (52.9%)	147 (47.1%)	
Depression			
No	62 (38.75%)	98 (61.25%)	
Yes	103 (67.8%)	49 (32.2%)	<0.001**
Total	165 (52.9%)	147 (47.1%)	
Self-esteem			
Normal	124 (49.6%)	126 (50.4%)	
Low	41 (66.1%)	21 (33.9%)	0.020*
Total	165 (52.9%)	147 (47.1%)	

*p<0.05 significant, **p<0.001 significant, chi-square test

Table V: Association between socio-demographic characteristics, job satisfaction, work stress, anxiety, depression, self-esteem and work-related burnout among respondents

Variables	Work-related burnout		p-value
	Yes	No	
Age			
≤30	62 (58.5%)	44 (41.5%)	
31-40	136 (70.1%)	58 (29.9%)	0.127
>40	8 (66.7%)	4 (33.3%)	
Total	206 (66.0%)	106 (34.0%)	
Gender			
Male	59 (57.8%)	43 (42.2%)	
Female	147 (70.0%)	63 (30.0%)	0.033*
Total	206 (66.0%)	106 (34.0%)	
Race			
Malay	84 (62.2%)	51 (37.8%)	
Chinese	77 (65.8%)	40 (34.2%)	
Indian	33 (73.3%)	12 (26.7%)	0.355
Others	12 (80.0%)	3 (20.0%)	
Total	206 (66.0%)	106 (34.0%)	
Marital status			
Married	156 (70.0%)	67 (30.0%)	
Single	50 (56.2%)	39 (43.8%)	0.020*
Divorced/Widowed	0 (0%)	0 (0%)	
Total	206 (66.0%)	106 (34.0%)	
Education level			
Degree	176 (65.9%)	91 (34.1%)	
Masters	26 (63.4%)	15 (36.6%)	0.336
PhD	4 (100.0%)	0 (0%)	
Total	206 (66.0%)	106 (34.0%)	
Monthly income			
≤5000	69 (65.1%)	37 (34.9%)	
5001-10000	126 (66.0%)	65 (34.0%)	0.819
>10000	11 (73.3%)	4 (26.7%)	
Total	206 (66.0%)	106 (34.0%)	
Work setting			
Outpatient pharmacy	92 (68.1%)	43 (31.9%)	
Inpatient pharmacy	64 (69.6%)	28 (30.4%)	
Clinical settings/ward	29 (63.0%)	17 (37.0%)	0.315
Others (TPN/TDM/CDR/ DIS/Store/ Manufacturing)	21 (53.8%)	18 (46.2%)	
Total	206 (66.0%)	106 (34.0%)	
Working experience			
>5years	154 (68.4%)	71 (31.6%)	
1-5 years	49 (61.25%)	31 (38.75%)	0.215
≥6 months - <1 year	3 (42.9%)	4 (57.1%)	
Total	206 (66.0%)	106 (34.0%)	
Working hours per week			
≤45	132 (61.4%)	83 (38.6%)	
>45	74 (76.3%)	23 (23.7%)	0.010*
Total	206 (66.0%)	106 (34.0%)	
Job satisfaction			
Satisfaction	46 (52.3%)	42 (47.7%)	
Ambivalent	130 (68.1%)	61 (31.9%)	
Dissatisfaction	30 (90.9%)	3 (9.1%)	<0.001**
Total	206 (66.0%)	106 (34.0%)	
Work stress			
No	74 (53.6%)	64 (46.4%)	
Yes	132 (75.9%)	42 (24.1%)	<0.001**
Total	206 (66.0%)	106 (34.0%)	
Anxiety			
No	77 (50.0%)	77 (50.0%)	
Yes	129 (81.6%)	29 (18.4%)	<0.001**
Total	206 (66.0%)	106 (34.0%)	
Depression			
No	88 (55.0%)	72 (45.0%)	
Yes	118 (77.6%)	34 (22.4%)	<0.001**
Total	206 (66.0%)	106 (34.0%)	
Self-esteem			
Normal	154 (61.6%)	96 (38.4%)	
Low	52 (83.9%)	10 (16.1%)	0.001*
Total	206 (66.0%)	106 (34.0%)	

*p<0.05 significant, **p<0.001 significant, chi-square test

Table VI: Association between socio-demographic characteristics, job satisfaction, work stress, anxiety, depression, self-esteem and client-related burnout among respondents

Variables	Client-related burnout		p-value
	Yes	No	
Age			
≤30	51 (48.1%)	55 (51.9%)	
31-40	91 (46.9%)	103 (53.1%)	0.910
>40	5 (41.7%)	7 (58.3%)	
Total	147 (47.1%)	165 (52.9%)	
Gender			
Male	41 (40.2%)	61 (59.8%)	
Female	106 (50.5%)	104 (49.5%)	0.088
Total	147 (47.1%)	165 (52.9%)	
Race			
Malay	65 (48.1%)	70 (51.9%)	
Chinese	54 (46.2%)	63 (53.8%)	
Indian	21 (46.7%)	24 (53.3%)	0.991
Others	7 (46.7%)	8 (53.3%)	
Total	147 (47.1%)	165 (52.9%)	
Marital status			
Married	109 (48.9%)	114 (51.1%)	
Single	38 (42.7%)	51 (57.3%)	0.323
Divorced/Widowed	0 (0%)	0 (0%)	
Total	147 (47.1%)	165 (52.9%)	
Education level			
Degree	123 (46.1%)	144 (53.9%)	
Masters	21 (51.2%)	20 (48.8%)	0.440
PhD	3 (75.0%)	1 (25.0%)	
Total	147 (47.1%)	165 (52.9%)	
Monthly income			
≤5000	51 (48.1%)	55 (51.9%)	
5001-10000	89 (46.6%)	102 (53.4%)	0.968
>10000	7 (46.7%)	8 (53.3%)	
Total	147 (47.1%)	165 (52.9%)	
Work setting			
Outpatient pharmacy	71 (52.6%)	64 (47.4%)	
Inpatient pharmacy	39 (42.4%)	53 (57.6%)	
Clinical settings/ward	20 (43.5%)	26 (56.5%)	0.409
Others (TPN/TDM/CDR/ DIS/Store/ Manufacturing)	17 (43.6%)	22 (56.4%)	
Total	147 (47.1%)	165 (52.9%)	
Working experience			
>5years	108 (48.0%)	117 (52.0%)	
1-5 years	36 (45.0%)	44 (55.0%)	0.876
≥6 months - <1 year	3 (42.9%)	4 (57.1%)	
Total	147 (47.1%)	165 (52.9%)	
Working hours per week			
≤45	83 (38.6%)	132 (61.4%)	
>45	64 (66.0%)	33 (34.0%)	<0.001**
Total	147 (47.1%)	165 (52.9%)	
Job satisfaction			
Satisfaction	20 (22.7%)	68 (77.3%)	
Ambivalent	104 (54.5%)	87 (45.5%)	
Dissatisfaction	23 (69.7%)	10 (30.3%)	<0.001**
Total	147 (47.1%)	165 (52.9%)	
Work stress			
No	54 (39.1%)	84 (60.9%)	
Yes	93 (53.4%)	81 (46.6%)	0.012*
Total	147 (47.1%)	165 (52.9%)	
Anxiety			
No	52 (33.8%)	102 (66.2%)	
Yes	95 (60.1%)	63 (39.9%)	<0.001**
Total	147 (47.1%)	165 (52.9%)	
Depression			
No	57 (35.6%)	103 (64.4%)	
Yes	90 (59.2%)	62 (40.8%)	<0.001**
Total	147 (47.1%)	165 (52.9%)	
Self-esteem			
Normal	106 (42.4%)	144 (57.6%)	
Low	41 (66.1%)	21 (33.9%)	0.001*
Total	147 (47.1%)	165 (52.9%)	

*p<0.05 significant, **p<0.001 significant, chi-square test

p<0.05 might not be able to point out some variables that could be important and significant in a study (20).

Association between socio-demographic characteristics and burnout among pharmacists

Table IV, V and VI show the socio-demographic characteristics associated with personal, work-related and client-related burnout, respectively. Female pharmacists showed higher personal and work-related burnout compared to male. Pharmacists with married status had higher personal and work-related burnout compared to single status. This study found that pharmacists with working experience >5years had higher personal burnout compared to ≥6 months-<1 year and 1-5 years. Those with working hours per week >45 reported higher personal, work-related and client-related burnout compared to those with working hours per week ≤45.

Table VII: Predictors of burnout among respondents using multiple logistic regression

Variables	B	Wald	AOR	p-value
Personal burnout				
Gender				
Male	0	-	1	-
Female	0.807	8.237	2.241 (1.292, 3.888)	0.004*
Working hours per week	1.070	12.164	2.916 (1.598, 5.320)	<0.001**
Job satisfaction				
Ambivalent	1.031	11.890	2.753 (1.548, 4.894)	0.001*
Dissatisfaction	2.565	13.858	12.998 (3.368, 50.158)	<0.001**
Depression	1.204	20.514	3.333 (1.979, 5.611)	<0.001**
Work-related burnout				
Male				
Work stress	2.209	16.291	9.103 (3.115, 26.603)	<0.001**
Anxiety	1.777	10.593	5.914 (2.028, 17.245)	0.001*
Female	1.777	22.979	5.913	
Anxiety	1.771	7.691	(2.859, 12.229)	<0.001**
Self-esteem			5.879 (1.681, 20.560)	0.006*
Client-related burnout				
Working hours per week	0.892	9.711	2.441 (1.392, 4.278)	0.002*
Job satisfaction				
Ambivalent	1.431	21.917	4.182 (2.298, 7.613)	<0.001**
Dissatisfaction	1.363	7.640	3.907 (1.487, 10.268)	0.006*
Anxiety	0.958	13.800	2.608 (1.573, 4.324)	<0.001**

*p<0.05 significant, **p<0.001 significant, multiple logistic regression

Association between job satisfaction and burnout among pharmacists

Table II shows there were significant differences between job satisfaction and burnout among pharmacists. Job dissatisfaction was associated with higher personal, work-related and client-related burnout.

Association between work stress and burnout among pharmacists

Table II shows there were significant differences between work stress and burnout among pharmacists. Work stress was associated with higher personal, work-related and client-related burnout.

Association between anxiety and burnout among pharmacists

In this study, significant association could be seen between anxiety and personal, work-related, and client-related burnout among pharmacists as shown in Table II.

Association between depression and burnout among pharmacists

There was a significant relationship between depression and personal, work-related and client-related burnout among pharmacists as shown in Table II.

Association between self-esteem and burnout among pharmacists

In this study, personal, work-related and client-related burnout was higher in pharmacists with low self-esteem as shown in Table II.

Predictors of burnout

Table VII shows the predictors of burnout among respondents using multiple logistic regression. The forward likelihood ratio stepwise selection method was used to determine the most significant predictors of personal, work-related and client-related burnout. The significant predictors of personal burnout were gender (AOR 2.24, 95% CI 1.29 to 3.89), working hours per week (AOR 2.92, 95% CI 1.60 to 5.32), job satisfaction (AOR 13.00, 95% CI 3.37 to 50.16) and depression (AOR 3.33, 95% CI 1.98 to 5.61). The output of Hosmer and Lemeshow test justified the model was a good fit (p=0.155) and area under the ROC curve is 0.786 (95% CI, 0.735 to 0.837, p<0.001), indicating the ability of the model to discriminate 78.6% of the cases.

The significant predictors of work-related burnout for male were work stress (AOR 9.10, 95% CI 3.12 to 26.60) and anxiety (AOR 5.91, 95% CI 2.03 to 17.25) while for female were anxiety (AOR 5.91, 95% CI 2.86 to 12.23) and self-esteem (AOR 5.88, 95% CI 1.68 to 20.56). The result of Hosmer and Lemeshow test for male was p=0.140 and female was p=0.386. For male, the area under the ROC curve is 0.765 (95% CI, 0.670 to 0.860, p<0.001), suggesting the ability of the model to discriminate 76.5% of the cases. For female, the area under the ROC curve is 0.754 (95% CI, 0.684 to 0.824, p<0.001), indicating the ability of the model to discriminate 75.4% of the cases. For work-related burnout, the analysis was stratified according to gender since interaction was found between variables in the regression model.

For client-related burnout, working hours per week (AOR 2.44, 95% CI 1.39 to 4.28), job satisfaction (AOR 3.91, 95 % CI 1.49 to 10.27) and anxiety (AOR 2.61, 95% CI 1.57 to 4.32) were the significant predictors. This model was a good fit as indicated by Hosmer and Lemeshow test (p=0.529) and area under the ROC curve is 0.744 (95% CI, 0.690 to 0.799, p<0.001), suggesting the ability of the model to discriminate 74.4% of the cases.

DISCUSSION

In this study, 52.9% of pharmacists reported personal burnout, 66.0% reported work-related burnout and 47.1% reported client-related burnout. According to (29) Kang et al (2020), more than half of pharmacists based in hospital and health-system settings in North Carolina are at risk of burnout. In United States, burnout was found to be at 61.2% among pharmacists working in hospital or health-system settings, which was one of the highest rates of any medical specialty (30). Another study showed that 53.2% of pharmacists working in university hospitals or health-system settings experienced high levels of burnout (31). A recent survey on burnout prevalence among frontliners in Malaysia during Covid-19 pandemic reported that the prevalence of personal burnout was higher among pharmacists and district healthcare workers, which was 53.8% (14). Pharmacists reported burnout at a higher rate compared to the rates of burnout reported previously during the COVID-19 pandemic (32). Burnout affects and threatens any level of the health-care workforce (33). Focusing on avoiding and reducing burnout in the future would benefit staff while also ensuring that patients receive the best possible care and optimal outcome (29).

This study found that the prevalence of burnout was higher among female pharmacists compared to male pharmacists. A comparable result was reported in North Carolina where female pharmacists in hospital and health-system were significantly associated with burnout (29). Another study showed there was a significant difference in the burnout relative to gender in which female professionals in pharmaceutical field had high burnout when compared to male since women are more exposed to the effects of stress factors (8). Women have multifaceted function which includes career and life whereby they have to anticipate in achieving well in both roles as wives and mothers. (34). However, another study reported that male pharmacists had higher burnout than female pharmacists (6). On the other hand, a research by (12) Calgan et al (2011) reported that there was no significant association between gender and

burnout.

It was observed that married pharmacists experienced higher prevalence of burnout compared to single pharmacists. Similar result found in a study conducted among US hospital pharmacists whereby those being married or in a steady relationship were reported as burned out (30). Marriage requires accountability and commitment together with a significant amount of emotional attachment in developing a strong marital institution and the bond between parents and children (23). In contrast, (35) Alharbi et.al (2020) reported that single pharmacists were prone to have a higher level of burnout. It was due to social pressure, feeling lonely and also having the perception that the families will see them with remorse if they are unmarried and consequently scorn their work- related achievements (35). In another study, no significant association was found between marital status and burnout among pharmacists (36).

Pharmacists with working experience more than 5 years had higher prevalence of burnout. A similar result was reported in a study where pharmacists with more working experience were at greater risk of burnout, and that career seniority is possibly directly related to the risk of developing burnout (11). Another study also reported by (37) Jocic et al. (2014) that pharmacists, who had spent between 11 to 20 years in practice were vulnerable to a higher degree of burnout. This may be because pharmacists spend so much of their lives in touch with patients that they are likely to have more fatigue and commitments (11). Conversely, (12) Calgan et al. (2011) found that pharmacists with <10 years of working experience have a higher degree of burnout than those with >10 years of working experience, and (31) Durham et al. (2018) figured that pharmacists who have practiced for less years were associated with a higher risk of burnout. This may result from the fact that, due to their lack of experience, younger pharmacists are likely to have a higher emotional load during work activities (30).

This study suggests that pharmacists working for more than 45 hours per week had higher prevalence of burnout than those working less than or equal to 45 hours per week. The finding is in line with previous study by (29) Kang et al (2020), which found that working longer hours per week was significantly correlated with burnout. According to (29) Kang et al (2020), working 50-59 hours per week was associated with a substantially greater risk of burnout than working 40-49 hours per week. Another study also reported similar outcome whereby burnout among pharmacists was related to the working hours (6). A significant association was found between working time and clinically significant burnout among pharmacists (11). In previous literature, workload has been explained as possibly contributing factor to burnout (12) whereby working hours of >51 hours per week correlated with burnout, which was supported by the results of this study. Heavy workload, increase in working hours and night shifts make health care field more exposed for burnout which is a concern of pharmacies (38).

In this study, job satisfaction was found to be statistically significant associated with personal, work-related and client-related burnout. A similar study found that lesser job satisfaction was correlated with an increase in burnout levels among pharmacists (12). According to another study, a negative correlation was found between job satisfaction and burnout syndrome whereby less job satisfaction results in increased burnout among healthcare professionals (39). Health care workers found to have generally lesser job satisfaction than those in different types of organizations which could be highly influenced by institutional rules, roles and responsibilities (40). Healthcare professionals usually face a disparity regarding the aspects that establish professional satisfaction such as chances, organizational performance, a work group, welfare, recognition and an existential–integrative supervision, which in return causing job dissatisfaction (41). Besides, employee's freedom at work, contribution, inventiveness and obstacles were found to be the intrinsic factors that had significantly impacted job satisfaction. Income, supervision feedback and work environment reported to be the extrinsic factors that impacted job satisfaction among pharmacists working in government hospitals and healthcare clinics in Malaysia (42).

There were significant differences between work stress and personal, work-related and client-related burnout in this study. Studies have also proven that work stress and burnout were strongly correlated among pharmacists (38). Similar results observed in another research whereby high level of stress was associated with high level of burnout among pharmacists (37). Burnout syndrome and work-related stress may have increased among healthcare providers and this could be due to the health care system becomes increasingly complex, thereby increasing the workload of healthcare providers (43). In a study by (12) Calgan et al. (2011), burnout scores were lower in pharmacists who rarely experienced stress compared to those who experienced work stress regularly, and none of them reported that they had never encountered work stress. Burnout has been stated as a multidimensional response to long term stress (44). Workplace stress and burnout syndromes have been described as common comorbidities among health care workers (6). Working with other health care staff, endless documentation works, complying with deadlines and major decision making were identified as pressuring work-related demands, and hospital pharmacists who endured pressure results from increased work-related demands reported a higher level of burnout (40). Other than work-related demands, conflict in the workplace, personal life and family can have an effect in the incidence of stress, so it is crucial to recognize

the primary factors causing stressful experiences among pharmacists (12).

This study reported statistically significant difference between anxiety and personal, work-related and client-related burnout whereby pharmacists with anxiety had higher prevalence of burnout. A significant association was reported between anxiety and burnout among pharmacists and this comorbidity remained in increasing level in this group, with approximately 66% experiencing anxiety (6). Anxiety that occurs very often in the work environment leads to occupational stress, which in long term leads to development of burnout (3,43). The level of burnout among pharmacists found to be generally high and anxiety levels also alarmingly increasing (12). Similar results observed in another research whereby high degree of anxiety was associated with high level of burnout among pharmacists (37). Anxiety could be reduced by involvement into activities such as reading, conversation with friends and family or social networking (45).

In this study, there were significant association between depression and personal, work-related and client-related burnout. Depression found to be significantly correlated with burnout among pharmacists and approximately 33% of respondents in a study suffered from depression (6). Worsening symptoms of burnout or a clinically significant burnout may be linked to depression (46). Burnout among hospital pharmacists found to be influenced by psychological factors like depression (36). (44) Bhagavathula et al., (2018) reported that 46% of respondents had depressive symptoms in a study on prevalence of burnout among healthcare professionals. Similarly, depression found to be positively correlated with burnout in a study conducted among working professionals in hospital (39). Overburdened with work and the conditions that are triggered by such dysfunction are proposed as explanatory causes for the development of conditions linked with symptoms of depression (47). To combat negative effects and comorbidity such as depression, strategies to assist pharmacists dealing with burnout must be created (6).

There were significant differences between self-esteem and personal, work-related and client-related burnout. This study suggests that pharmacists with low self-esteem had higher prevalence of burnout compared to those with normal self-esteem level. Similarly, healthcare professionals with low self-esteem were associated with significant burnout scores compared to those with medium and high level of self-esteem (48). Moreover, (49) Johnson et al., (2020) reported that in health-care workers, low self-esteem found to be directly influencing burnout which means low self-esteem leads to burnout and it is important to include screening and therapy for burnout and low self-esteem as part of a regular health check-up for every categories of healthcare workers. As a matter of fact, hierarchical work structure and medical system may result in a higher chance of low self-esteem, which leads to burnout (50).

There are a number of studies published on burnout among doctors and nurses, but limited studies published on pharmacist's burnout in Malaysia. The outcome from this research can assist future researchers to further look into the particular factors related to burnout among pharmacists in other work field as well as in other healthcare profession. This study shows the importance for pharmacists and other healthcare professionals to be aware of the aspects of burnout that may affect their health at workplace.

One main limitation of this study was that it focused on pharmacists in Selangor only since the workload among pharmacists in Selangor found to be high and study conducted in selected hospitals due to time constraint. Therefore, the results may not be widely applicable to whole Malaysian pharmacists. Besides, we are unable to establish temporal relationships as this was a cross-sectional study. However, the outcome of this present study can still provide a baseline understanding of burnout among pharmacists working in government hospitals in Selangor.

CONCLUSION

As per findings of this research, each scale of burnout had various predictors such as gender, working hour per week, job satisfaction and depression (personal burnout), gender, work stress, anxiety and self-esteem (work-related burnout) and working hours per week, job satisfaction and anxiety (client-related burnout). These predictors as found in this study provide a suggestion on what aspects need to be taken into consideration and treated effectively to reduce burnout.

Findings of this study concluded that pharmacists are at greater risk of developing burnout and therefore, one of the recommendations based on this study is that there is a need for development of intervention programs to reduce burnout among pharmacists. This can be performed by identifying the significant predictor of the different scales of burnout. Besides, advanced research should be conducted nationwide to enhance the generalisability of the research findings.

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