



Original Research Article

Prevalence of burnout among hospital pharmacists at National Guard Hospital in Riyadh, Saudi Arabia

Received 13 December, 2019

Revised 20 January, 2020

Accepted 27 January, 2020

Published 15 February, 2020

**Abeer S. Alharbi*¹,
Anfal M. Alenzi ¹,
Norah A. Almuhaini ¹,
Rawan M. Alkharif ¹,
Naelah H. Alarafah ¹,
and
Hind Almodaimegh²,**

¹Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia

²King Saud bin Abdulaziz University for Health Sciences, King Abdullah International Medical Research Center Ministry of National Guard Health Affairs.

*Corresponding Author Email: abeersameer9@gmail.com

Tel.:+966503975636

Currently, many pharmacists suffer from burnout as a result of high demand for their services, lack of resources, shortage of pharmacy staff. No studies in Saudi Arabia among hospital pharmacists have focused on burnout. Therefore, this study was conducted to assess the prevalence of burnout among pharmacists at the National Guard Hospital (NGHA). A cross-sectional study was conducted at National Guard Hospital (NGHA) Riyadh, Saudi Arabia. Data were collected using a questionnaire through Google form by a smart device. The questionnaire consists of two sections: the first section is demographic data while the second section is the Maslach Burnout Inventory for Health Services Workers (MBI-HSS). Participants were selected by the non-probability consecutive sampling method. They were 159 full-time employees working in the hospital, including clinical pharmacists, pharmacy residents, general pharmacists, and pharmacy technicians. Forty employees (25.16%) had high emotional exhaustion, 89 (55.97%) had high depersonalization, and 101 (63.52%) had low scores for personal accomplishment. The common criteria are high emotional exhaustion, high depersonalization, and low personal accomplishment which indicated pharmacists with burnout (17.6%). Roughly, a quarter of the National Guard Hospital pharmacists have burnout. A correlation between personal accomplishment, gender, and the number of exercises per week is significant. Pharmacy employee satisfaction with their income, age and the number of sleeping hours per day was inversely correlated with emotional exhaustion and depersonalization level.

Keywords: Burnout, pharmacists, stress, emotional exhaustion, MBI scale.

INTRODUCTION

Work stress can occur when a person is not in control of how the job is carried out. Many pharmacists suffer from this problem as a result of high demand for their services, lack of resources, and shortage of pharmacists. These obstacles may lead them to experience stress. Job-related stress might lead to burnout (Rothmann and Malan,2011). Burnout syndrome appears in response to chronic work stress, provoking a crisis in the relationship with work itself

(Gomez-Urquiza, 2019). It is defined as a psychological state resulting from prolonged exposure to job stressors which has been studied by several scholars in healthcare and other fields and this syndrome results from an imbalance between high job demands and low resources (Njim et al., 2019). It leads to emotional exhaustion (EE), depersonalization (DP), and lack of personal accomplishment (PA). The most common measurement

inventory for burnout is the Maslach Burnout Inventory (MBI). It is a well-validated 22-item questionnaire for measuring burnout. It evaluates emotional exhaustion, depersonalization, and low personal accomplishment due to burnout (Maslach, 1981).

Burnout is a widespread concern across all labor and occupational sectors that may cause work-related illness in addition to administrative outcomes (e.g., lost working days, turnover, claims for workers' compensation and feeling negative) and decreased accomplishment (Al-Shuhail, 2017). Currently, in Saudi Arabia, the rate of prevalence of burnout is moderate to high among healthcare providers (Jamjoom and Park, 2018); (Hameed, 2018); (Aldrees, 2017). For hospital pharmacists, the rate of burnout is unclear due to limited research.

With regard to psychological factors, there was a significant relationship between depression, anxiety, and all the burnout measurement. Therefore, to avoid or prevent these mental health problems among pharmacists, there are some correlative therapies, such as regular exercise, which is the most critical factor to protect from burnout (Gomez-Urquiza, 2019). As a result, Saudi medical institutions should encourage regular exercise (Aldrees, 2017). Indulgence in social activities such as reading books, chatting with friends and family, or chatting on social media were associated with significantly lower scores on the scales assessing depression, burnout, and anxiety (Grover, 2018). Other solutions may include a reduction in their working hours to keep them in a good state of mental health (Grover, 2018). Finally, the adaptation of active coping strategies is associated with reduction of burnout (Chen et al., 2018)

Several studies have investigated the prevalence and determinants of burnout in health care professionals in North America, Europe, and Australasia (Elbarazi, 2017). There is a gap in the research of professional exhaustion among pharmacists working in hospitals, as far as international literature research is concerned. Most studies have focused on health care professional satisfaction or burnout. Few studies among hospital pharmacists have focused on burnout. No studies have been conducted on the prevalence of burnout among pharmacists in the Kingdom of Saudi Arabia. In Australia, pharmacists identified a high prevalence of burnout (Muir and Bortoletto, 2007) and an average prevalence among Japanese pharmacists (Gomez-Urquiza, 2019). Furthermore, a study was conducted in South Africa, and the results showed that they were predicting burnout and work engagement with work-related stress and coping strategies (Rothmann and Malan, 2011). Finally, a Romanian study showed a moderate level of burnout that was identified for emotional exhaustion (17.17 ± 10.40), a low level for depersonalization (4.66 ± 4.31) and an average level of burnout for personal accomplishment (32.54 ± 8.73). The results obtained are significant for hospital pharmacists to find ways to cope with burnout (Iorga et al., 2018). Some occupations, primarily for healthcare professionals, have a higher risk of burnout. Heavy workload, long working hours, night shifts,

and unique stressors in medical care make occupational burnout more exposed to health care. Because burnout is more prevalent in occupations of healthcare, and pharmacist job seems too stressful, burnout is a concern of pharmacies. The job burnout risk factor is well suited for pharmacy practice, such as work stress, tiredness, and exhaustion. Despite all these facts, the frequency and consequences of pharmacist burnout are not well known (Eslami, 2016).

Rational

Currently, no studies have assessed burnout prevalence on the pharmacist in Saudi Arabia. This study will add to the knowledge of the current issues of workload, emotional stress and establish valid and reliable data of burnout among pharmacists in Riyadh, Saudi Arabia.

Objective

This study was carried out to assess the prevalence of burnout among pharmacists at National Guard Hospital (NGHA), identify the risk factors associated with burnout and investigate the correlation between burnout and socio-demographic factors, to improve the quality of life, pharmacist-patient communication, patient safety, and job satisfaction.

MATERIALS AND METHODS

Study design, sitting and duration

A cross-sectional study was conducted on National Guard hospital (NGHA) Riyadh, Saudi Arabia. The duration of the study was from January to December 2019, and data were collected in June 2019.

Study populations

Inclusion criteria

Pharmacists working as full-time employees in the (NGHA) hospital, including clinical pharmacists, resident pharmacists, pharmacists, and pharmacy technicians. Both in-patient wards and out-patient pharmacy have been included.

Exclusion criteria

Incomplete survey answers were excluded from the final analysis.

Sampling procedure

Sample size

A total of 159 respondents participated in this study.

Sampling technique

The participants were selected by a non-probability consecutive sampling method.

Data collection tool and instruments

Structured modified questionnaires have been distributed by the researchers through Google form on smart devices to the pharmacists at working hours to ensure maximum response rate.

The questionnaire consists of two sections: The first section is demographic data, such as gender, age, marital status, having children, nationality, professional status, number of years working in the pharmacy, number of working hours, night shift, vacation days, satisfaction of income, smoking, exercise and sleeping hours. The second section is the Maslach Burnout Inventory for Health Services Workers (MBI-HSS). The MBI is a validated questionnaire of 22 items used to measure burnout, divided into three subscales correlating to emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA). The 22 questions varied between the emotional states employed during work, feeling of tiredness, feelings toward accomplishments and the ability to look after patients problems. Each piece is linked to a scale of 7 points ranging from 0 ('never') to 6 ('every day'). For EE (high 30, moderate 18–29 and low 17), DP (high 12, moderate 6–11 and low 5) and PA (high 40, moderate 34–39 and low 33). (Maslach, 1996)

Data management and analysis

Data entry and analysis were carried out using the statistical program SPSS version 24.0. 1. Descriptive data such as professional year level and courses where concept maps were implemented were presented as frequencies and percentages.

ANOVA test was used to assess the relationship between the level of burnout (low, medium and high) and other baseline characteristics such as age, working years and administrative duties. The level of significance (α) in the study was set as 0.05.

Spearman's correlations were used to measure the strength and direction of the association between two variables 1) the burnout subscales (emotional exhaustion, depersonalization and personal accomplishment) and 2) sociodemographic variables.

Ethical consideration

The study was approved by King Abdullah International Medical Research Center (KMARC) on 29 May 2019. Before responding to the questionnaire, participants received a written consent form and their identity were kept anonymous. All data were identified and kept securely.

RESULTS

Descriptive statistics

A total of 159 clinical pharmacists, resident pharmacists, pharmacists, and technicians answered the survey as shown in Table 1, with a response rate of 51%. Of these 159 respondents, 5 (3.1%) were clinical pharmacists, 3 (1.9%) resident pharmacists, 87 (54.7%) pharmacists, 53 (33.3%) technicians, and 11 (6.91%) others, with 5 years or less working in pharmacy 85 (52.83%), more than 40 hours working per week 134 (84.28%) and 5 days or less per month of night shift 141 (88.68%). A majority of the participants were female 95 (59.75%) compared with male 64 (40.25%), and most of them aged between 20 and 30 years, were 81 (53.29%). 76 (47.8%) singles, 6 (3.77%) divorced and 77 (48.43%) married with 65 (40.88%) have children. Almost all of them were Saudi 116 (72.96%), while 43 (27.04 %) were non-Saudi. Most of the respondents were unsatisfied with their income 91 (57.23 %) and were non-smokers 134 (84.28 %). Their sleeping hours per day was 6 hours or less 104 (65.41%). It was found that 71 (44.65%) do not exercise, 69 (43.40%) exercise 1-3 times per week and 19 (11.95%) exercise more than three times per week.

Analytical statistics

Table 2 shows the subscale of the burnout. Forty employees (25.16%) had high emotional exhaustion, and 89 (55.97%) had high depersonalization. About 101 (63.52%) had low scores for personal accomplishment. The common criteria are high emotional exhaustion, high depersonalization, and low personal accomplishment which indicated pharmacists with burnout (17.6%).

Table 3 shows the Spearman correlations of EE, DP, and PA subscales. Age and satisfaction with income were inversely correlated with the EE level. DP has a negative correlation with age, satisfaction with income, and the number of sleeping hours per day. PA has a positive correlation with gender, number of exercises per week, and marital status.

DISCUSSION

The objectives of this study were to assess the prevalence of burnout syndrome among pharmacists in hospitals at the National Guard hospital (NGHA), Riyadh, Saudi Arabia, identify the risk factors associated with burnout and investigate the relationships between burnout and socio-demographic factors.

Among the first burnout subscale is emotional exhaustion. Our study indicated that 40 (25.16 %) of pharmacists had a high level of emotional exhaustion. Another study in Australia showed that (39.3%) of Pharmacists had a higher level of emotional exhaustion in contrast to this study. The evidence of burnout in health-

Table 1. Socio-demographic characteristics

Variable	Frequency	Percent	Cumulative
Gender			
female	95	59.75	
Male	64	40.25	59.75
Total	159	100	100
Age			
20-30 years	81	53.29	
31-40 years	51	33.55	53.29
41 and more	20	13.16	86.84
Total	152	100	100
marital status			
Single	76	47.80	
Married	77	48.43	47.80
Divorced	6	3.77	96.32
Total	159	100	100
children			
No	94	59.12	
Yes	65	40.88	59.12
Total	159	100	100
nationality			
Saudi	116	72.96	
Non-Saudi	43	27.04	72.96
Total	159	100	100
professional status			
Clinical	5	3.14	
Resident	3	1.89	3.14
Pharmacist	87	54.72	5.03
Pharmacy technician	53	33.33	59.75
Other	11	6.92	93.08
Total	159	100	100
number of years working in pharmacy	85	52.83	
5 years or less	75	47.17	15.72
More than 5 years	159	100	100
Total			
Working hours/week			
40 hours or less	25	15.72	
More than 40 hours	134	84.28	15.72
Total	159	100	100
night shift/ month			
5 days or less	141	88.68	
More than 5 days	18	11.32	88.86
Total	159	100	100
satisfaction of income			
No	91	57.23	
Yes	68	42.77	57.23
Total	159	100	100
smoking			
No	134	84.28	
Yes	25	15.72	84.28
Total	159	100	100
sleeping hours/day			
6 hours or less	104	65.41	
More than 6 hours	55	34.59	65.41
Total	159	100	100
exercise/week			
Never	71	44.65	
1 to 3 times	69	43.40	44.65
More than 3 times	19	11.95	88.05
Total	159	100	100

Table 2. Burnout subscales

Burnout subscale	Pharmacists in each subscale; n (%)		
	Low	Moderate	High
Emotional exhaustion	60 (37.74)	59(37.11)	40 (25.16)
Depersonalization	39 (24.53)	31 (19.50)	89 (55.97)
Personal accomplishment	101 (63.52)	33 (20.75)	25 (15.72)

Table 3. Effect of various subgroups on burnout sub-scales

variable/ dimensions	Emotional exhaustion	Depersonalization	Personal accomplishment
Gender	NS	NS	P= 0.0062 Spearman r= 0.2213
Age	P= 0.045 , Spearman r= -0.1629	P= 0.0377 Spearman r= -0.1688	NS
Marital status	NS	NS	P= 0.0131 Spearman r= 0.2009
children	NS	NS	NS
nationality	NS	NS	NS
Professional status	NS	NS	NS
Working years	NS	NS	NS
Working hours	NS	NS	NS
Night shifts	NS	NS	NS
satisfaction with income	P= <0.001 Spearman r= -0.3107	P= < 0.001 Spearman r= -0.3107	NS
smoking	NS	NS	NS
sleeping hours	NS	P= 0.015 Spearman r= -0.197	NS
exercise per week	NS	NS	P= 0.026 Spearman r= 0.1806

*NS=No significant

system study pharmacists showed 120 (36.5%) of emotional exhaustion which is higher than this study level. Age had a statistically significant inverse very weak correlation with emotional exhaustion where $P= 0.045$ and Spearman $r=-0.1629$. The most common age category in this study was among the younger ages and those who had worked less than five years. This could have resulted in lack of experience and lack of participation in decision making in their work area (Rothmann and Malan, 2011) which can enhance the feeling of burnout and emotional exhaustion, since the younger ages always have a higher job expectation. Another statistically significant inversely weak correlation was found between income satisfaction and emotional exhaustion $P= <0.001$, Spearman $r= -0.3107$. This correlation could be due to the feeling of deserving more salary and income [1]. Both studies did not show any significant correlation related to age and income satisfaction. (Muir and Bortoletto, 2007); (Chen et al., 2018).

In the second burnout subscale depersonalization, this study showed that 89 (55.97%) of pharmacists had high

depersonalization. A study of pharmacists about the evidence of burnout in health-system also showed high depersonalization by 66 (20.1%) (Durham and Ball, 2018). In Australia, Pharmacists had high depersonalization with 13 (11.7%) (Muir and Bortoletto, 2007). Depersonalization has a statistically significant negative very weak correlation with age, having $P= 0.0377$, Spearman $r= -0.1688$. Hence, younger pharmacists have the most workload, as the beginning of a pharmacist's job can be loaded with night shifts, medication preparation and maintaining patient's safety, which can enhance the feeling of disconnect with themselves.

Also, a statistically significant negative weak correlation was found regarding satisfaction with income by $P= < 0.001$, Spearman $r= -0.3107$. This can be attributed to the fact that nearly all the pharmacists in this study worked more than 40 hours every week, which can drive them to believe that the number of working hours should attract more salary. Sleeping hours per day and depersonalization had a statistically significant negative very weak correlation $P= 0.015$, Spearman $r= -0.197$. Depersonalization can be

affected by the number of sleeping hours, inadequate sleeping associated with impaired performance, loss of concentration, fatigue, emotional changes, and mood disorders as anxiety or depression are associated with sleep disturbances (Söderström, 2004).

As for the third burnout subscale, personal accomplishment, the low score of personal accomplishment indicated a high level of burnout. This study has found 101 (63.52%) pharmacists with a low score of personal accomplishment. Compared to two studies conducted in Australia and America, both have a high level of burnout in personal accomplishment which means a low level of personal competence and accomplishment in their work. The first study was (49.2%) (Muir and Bortoletto, 2007) while the second study recorded 106 (32.2%) (Durham and Ball, 2018). Personal accomplishment has a statistically significant positive relationship with gender, number of exercises per week, and marital status with $P=0.0062$ and Spearman $r=0.2213$, $P=0.026$ and Spearman $r=0.1806$, $P=0.013$ and Spearman $r=0.2009$, respectively. For gender, since females represent more than half of this study population, low scores of personal accomplishments could be due to hormonal changes; they have more fluctuation in hormone level, their mood changes can enhance their feeling towards accomplishments (DelRío, 2018). Moreover, their work responsibility can conflict with their families. Secondly, the highest portion of the pharmacist in this study never exercises, which elevates the level of stress and burnout. Furthermore, this study found that the single participants are prone to have a higher level of burnout because of a feeling of solitude and social pressure, it could also be because their families see them with shame if they are unmarried and scorn their work-related accomplishments. There was no significant correlation relevant to the previous variables and personal accomplishments in the literature (Muir and Bortoletto, 2007); (Iorga et al., 2018).

CONCLUSION

Roughly, a quarter of the National Guard Hospital pharmacists have burnout. There is a significant correlation between personal accomplishment, gender, and the number of exercises per week. Pharmacy employee satisfaction with their income, age and the number of sleeping hours per day was inversely correlated with emotional exhaustion and depersonalization level. Further research is recommended to explore possible ways to improve the quality of life, pharmacist-patient communication, and job satisfaction.

RECOMMENDATION

Further, quantitative studies should be implemented to investigate the population of Saudi Arabia, especially the health care sector. The number of exercises has a significant impact on burnout, more than three times per week for

exercise will reduce stress and burnout.

Qualitative studies should be implemented to explore any possible coping skills, educational programs, and workshops, as a strategy to help in burnout reduction.

strengths and limitations

strengths

This is the first study to assess burnout among pharmacists in Saudi Arabia, it includes all professionals in the pharmacy field (clinical pharmacists, resident pharmacists, pharmacists, and pharmacy technicians).

Limitations

To the best of our knowledge, there was no published research from Saudi Arabia on burnout prevalence among pharmacists. The result cannot be generalized to other health care providers because it focused on pharmacists, and they have different workloads, salaries, and working hours. Another limitation is that there were more female participants than male participants. Women tend to have more stress as a result of hormonal imbalance.

Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this manuscript.

REFERENCES

- Aldrees, Aldrees T, Hassouneh B, Alabdulkarim A, Asad L, Alqaryan S, Aljohani E, Alqahtani K. (2017) 'Burnout among plastic surgery residents. National survey in Saudi Arabia', *Saudi Medical J*, 38(8):832–836.
- Al-Shuhail AS, Al-Saleh S, Al-saleh SS, Elhassan I, Wajid S (2017) 'Prevalence of burnout among National Guard Health Affairs Physicians in Dammam, Saudi Arabia - a cross-sectional study', *Asian J Pharm*; 11(4):S924–S9.
- Chen L, Liu J, Yang H, Ma H, Wang H, Huang Y, Cheng H, Tang D, Liu M, Luo H, Qu H, Shen D, Zhang N (2018) 'Work-family conflict and job burn-out among Chinese doctors: the mediating role of coping styles', *General Psychiatry*, 31(1), p. e000004.
- Del Río JP, Allende MI, Molina N, Serrano FG, Molina S, Vigil P (2018) 'Steroid Hormones and Their Action in Women's Brains: The Importance of Hormonal Balance', *Frontiers in Public Health*, 6(May):1–15.
- Durham ME, Bush PW, Ball AM (2018) 'Evidence of burnout in health-system pharmacists', *American Journal of Health-System Pharmacy*, 75(23):S93–S100.
- Elbarazi I, Loney T, Yousef S, Elias A (2017) 'Prevalence of and factors associated with burnout among health care professionals in Arab countries: A systematic review', *BMC Health Services Research*. *BMC Health Services Research*, 17(1), pp. 1–10.

- Eslami A, Kouti L, Javadi MR, Assarian M, Eslami K (2016) 'An Investigation of Job Stress and Job Burnout in Iranian Clinical Pharmacist', (3).
- Grover S, Sahoo S, Bhalla A, Avasthi A (2018) 'Psychological problems and burnout among medical professionals of a tertiary care hospital of North India: cross sectional study', *Indian J psychiatry*; 60(2):175-188.
- Hameed TK, Masuadi E, Al Asmary NA, Al-Anzi FG, Al Dubayee MS (2018) 'A study of resident duty hours and burnout in a sample of Saudi residents', *BMC Medical Education*. *BMC Medical Education*, 18(1), pp. 1-6.
- Iorga M, Dondas C, sztankovszky L-Z, Antofie I (2018) 'Burnout syndrome among hospital pharmacists in Romania', *Farmacia*, 66(1):181-186.
- Jamjoom RS, Park YS (2018) 'Assessment of pediatric residents burnout in a tertiary academic centre', *Saudi Medical J.*, 39(3): 296-300.
- Maslach C, Jackson S(1981). The measurement of experienced burnout. *J Occup Behav.* 2: 99-113.
- Maslach C, Jackson SE, Leiter MP. *Maslach Burnout Inventory Manual*. 3rd ed. Palo Alto (CA): Consulting Psychologist Press; 1996.
- Muir PR, Bortoletto DA (2007) 'Burnout among Australian hospital pharmacists', *Journal of Pharmacy Practice and Research*, 37(3): 187-189.
- Njim T, Makebe H, Njim L, Kika B, Fonkou S, Fondungallah J, Fondong A. . (2019) 'Burnout Syndrome amongst Medical Students in Cameroon: A Cross-Sectional Analysis of the Determinants in Preclinical and Clinical Students', *Psychiatry J. Hindawi*, 2019, pp. 1-7.
- Ramirez-Baena L, Ortega-Campos E, Gomez-Urquiza JL, Cañadas-De la Fuente GR, De la Fuente-Solana EI, Cañadas-De la Fuente GA (2019) 'A Multicentre Study of Burnout Prevalence and Related Psychological Variables in Medical Area Hospital Nurses', *J. Clinical Medicine*, 8(1), p. 92.
- Rothmann S, Malan M (2011) 'Work-related well-being of South African hospital pharmacists', *SA J. Industrial Psychology*, 37(1):1-11.
- Söderström M, Ekstedt M, Akerstedt T, Nilsson J, Axelsson J. (2004) 'Sleep and sleepiness in young individuals with high burnout scores', *Sleep*, 27(7):1369-1377.