

Depression, Anxiety and Stress (DAS), and Workplace Spirituality among Pharmacists and Pharmacist Assistants in the state of Perlis, Malaysia

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Abstract

Introduction: Depression, anxiety, and stress (DAS) are essential indicators for mental health, affecting our quality of life, productivity, and motivation to work. Workplace spirituality considers the team's sense of community, alignment of organizational values, a sense of contribution to society, enjoyment at work, and opportunities for the inner life, which has recently emerged as a significant component of an organisation.

Objectives: This study aimed to determine the prevalence of DAS and its associations with sociodemographic factors, work-related information, and workplace spirituality among the pharmacists and pharmacist assistants in Perlis.

Methods: A cross-sectional study was carried out for two weeks from 1 June 2019. Data was collected from all pharmacists and pharmacist assistants working in the public or private health settings in Perlis. A self-administered questionnaire was distributed to all respondents. Pearson's chi-square and Fisher's exact tests were used in determining factors associated with DAS.

Results: A total of 238 respondents completed the questionnaire (response rate 95.2%). About 48% of the respondents reported high workplace spirituality. The prevalence of depression, anxiety and stress was 28.2%, 40.8%, and 17.6%, respectively. Age and working years were significantly associated with DAS ($p < 0.05$). Other factors such as employment contract and sleep time were found to be associated with depression. There was also a significant association between employment contract with anxiety. Working hours were significantly associated with stress. Nevertheless, workplace spirituality was not associated with DAS ($p > 0.05$).

Conclusion: Common mental health symptoms experienced by the pharmacy staff in Perlis was anxiety, followed by depression and stress. DAS was significantly associated with age and working years but no association was found between workplace spirituality and DAS. The study's findings suggested for early recognition of DAS and appropriate mental health support for pharmacists and pharmacist assistants at their workplaces.

Keywords: depression, anxiety, stress, workplace spirituality, pharmacy, Malaysia

NMRR ID: NMRR-18-3726-45219

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Introduction

Mental health is an integral part of health. It is the foundation of overall well-being, ensuring an individual's effective functioning to work productively (1). Mental disorders such as depression, stress, and anxiety (DAS) are essential indicators for mental health. In Malaysia, data from the latest National Health Morbidity Survey showed that 2.3% of Malaysian adults have depression (2). Healthcare workers are among the high-risk population who struggle with mental health disorders as they face enormous pressures in their working environment (3).

Studies related to DAS among healthcare workers in Malaysia are few but increasing in recent years. Khor *et al.* (2017) found that the prevalence of DAS among healthcare professionals (doctors, pharmacists, and nurses) working in the medical wards of Hospital Miri were 40.5%, 66.7%, and 35.7%, respectively (4). In addition, a study conducted among 140 medical officers working in the emergency departments of Malaysian hospitals found that the prevalence of anxiety was 23.8% (5). Another study reported that about three-quarters of nurses working in the public hospitals in Klang Valley expressed emotional distress including DAS (6). Nonetheless, we have little published evidence concerning the emotional distress among pharmacy staff working in Malaysia.

Work and workplace hold a vital role in an individual's life. Workplace spirituality has recently emerged as a significant aspect of an organisation (7). It includes the team's sense of community, alignment of organisational values, a sense of contribution to the society, enjoyment at work, and opportunities for inner life (8). Spirituality at the workplace could contribute to a more effective organisational work process, increase productivity (9) and job satisfaction (7). To date, literature studying the association of workplace spirituality and DAS is relatively scarce.

The high prevalence of mental health problems among the healthcare professionals is a cause for concern because it appears to be affecting the quality, safety and overall healthcare system performance (10). Poor mental health status is also associated with medical errors (11) or decreased performance (12). Hence, early recognition of mental illness among the healthcare professionals is vital to address these problems. The objective of this study was to estimate the prevalence of DAS among the pharmacists and pharmacist assistants working in Perlis. The study also aimed to explore the relationship between DAS and sociodemographic, work-related factors, and workplace spirituality.

Methods

This cross-sectional study was carried out in Perlis, a northern state of Peninsular Malaysia, starting from 1 June 2019 for two weeks. This study was registered with the National Medical Research Register (NMRR-18-3726-45219) and approved by the Medical Research and Ethics Committee (MREC), Ministry of Health Malaysia. Approval to conduct this study was also obtained from the hospital director, district health officer, and managers of all community pharmacies.

This study involved all pharmacy staff currently working in Perlis. We included all pharmacists and pharmacist assistants working in both public and private healthcare settings in Perlis, including hospitals, clinics and community pharmacies. Those who were unable to read and write in English were excluded from this study.

A validated self-administered questionnaire was distributed to all respondents in this study. The questionnaire is only available in English. The first part of the questionnaire collected participants' sociodemographic data and work-related information. The second part of the questionnaire measured the workplace spirituality of the study respondents (17 items). It was adapted from a previous study that measured spirituality at the workplace, including the team's sense of community, alignment between organisational and individual values, sense of contribution to the society, enjoyment at work, and opportunities for the inner life (13). The response options in this section were the categories 'Strongly disagree / Disagree / Neutral / Agree / Strongly agree' which corresponded to a score of 1 to 5. A total score of more than 70 was considered as high in workplace spirituality.

The last part of the questionnaire adopted the Depression, Anxiety and Stress Scale (DASS-21), which is a shorter version of the full survey (DASS-42) (14). There were seven items to measure depression, anxiety and stress, respectively. The responses were assigned a score of 0 for 'Did not apply to me at all', 1 for 'Applied to me to some degree, or some of the time', 2 for 'Applied to me to a considerable degree, or a good part of the time', and 3 for 'Applied to me very much or most of the time'. The total raw score for each DAS component was then multiplied by two to fit with the DASS-42. According to the recommended cut-off, DAS was then dichotomised into two categories, i.e., with or without symptoms. Subjects were categorised as having depression, anxiety, and stress symptoms if each individual score was more than 9, 7 and 14, respectively.

Prior to data collection, the questionnaire was tested for content and face validation. Content validation was carried out by five elected senior pharmacists with at least five years of working experience in consensus until no further correction. Then, face validity was tested against six other pharmacists and pharmacist assistants to ensure the clarity and comprehensibility of the questionnaire.

Three investigators conducted participant recruitment in this study. The list of all pharmacy staff working in Perlis was gathered from credible sources, i.e., the Perlis Health Department database, representatives of the private hospital, and community pharmacies across Perlis. Scheduled appointments were made to each facility for data collection. During each visit, all eligible participants were adequately briefed on the study, and they were allowed to ask any questions if they required further clarification. A paper-based questionnaire was handed to only consented individuals, and they were given approximately 15 to 20 minutes to complete the questionnaire. Completed questionnaires were systematically collected throughout the study, and all responses were assured of anonymity to protect data confidentiality.

Data analyses were carried out using the Statistical Packages for Social Sciences (SPSS) Software Version 20.0. Descriptive analyses on the sociodemographic characteristics, work-related information, workplace spirituality and DAS were performed. Then, Pearson's Chi-square and Fisher's exact test were used to determine the associations of sociodemographic characteristics, work-related information and workplace spirituality with DAS. All statistical tests were performed at a 5% significance level.

Results

Sociodemographic characteristics and work-related information

Of 250 questionnaires distributed during the study, 238 were completed and returned to the investigators, giving a response rate of 95.2%. Respondents' sociodemographic data and work-related information were shown in Table 1. Slightly more than half of the respondents were aged below 30 years old (n=131, 55.0%). The majority were female (n=190, 79.8%). A total of 151 respondents were pharmacists, and 87 were pharmacist assistants. Most of them were public servants (n=175, 73.5%), while the rest were working in the private sector. Of those, more than three-quarters were permanent staff, while 57 respondents (23.9%) were under a fixed-term contract. More than half of the respondents (63.4%) worked for more than three years in the health sector with an average monthly income between RM3000-RM5000 (50.4%).

Workplace spirituality

The results for spirituality among the pharmacists and pharmacist assistants at the workplace were shown in Table 2. Regarding the team's sense of community, 70.1% of the respondents agree that they worked in a team that feels like a family. About 80% of the total respondents think that their team members support and care about each other. When concern about the alignment between organizational and individual values, 68.9% of the respondents felt positive about the workplace's values, 63.8% reported they felt good about their future with the organization. Besides, most of the pharmacy staff agreed that their organisation respects their inner life. For the sense of contribution to the community, more than three-quarters of the respondents reported their work is connected to what they think is essential in life. Most of them agreed that there is a connection between their work and the community, and their work helps the society. Only 12 (5.1%) of the study respondents expressed that they experienced no joy in their work. About 63% reported they feel pleasure when coming to work. In the opportunity for the inner life domain, more than half of the respondents stated their spiritual values are valued in their workplace, and there is room for their spirituality. Among the respondents, 114 (47.9%) of them reported high workplace spirituality.

Depression, Anxiety and Stress (DAS)

Table 3 showed the emotional syndromes of DAS among the pharmacists and pharmacist assistants. For depression, about 42.0% of the respondents reported that they couldn't experience a positive feeling. A total of 54.6% of pharmacy staff said it was difficult to work up the initiative to work. About 60% of them stated the sense of downhearted and blue and unable to become enthusiastic about anything. Regarding anxiety, 32.4% of the respondents experienced difficulty in breathing. About one-third of the respondents felt panic, and 29.4% reported that they felt scared without any good reason. In the last component (stress), more than half of the respondents found it hard to wind down, and they tended to overreact to situations. A total of 37.4% of them reported getting agitated, and 43.3% of them found it difficult to relax. About 42% of respondents said they were intolerant of anything that kept them from getting on with what they were doing. The subscale score of participants for DAS was presented in Table 4. Overall, 67 (28.2%), 97 (40.8%) and 42 (17.6%) had symptoms of depression, anxiety and stress respectively.

Association between sociodemographic factors, work-related information and workplace spirituality with DAS

Table 5 summarised the results of bivariate analyses to explore the relationship between each factor with DAS. There were four factors, including age, employment contract, working years, and sleeping time, that were significantly associated with depression. Pharmacy staff aged 30 years and above had 2.04 times odds (95% CI 1.27-5.26; $p=0.019$) of developing depression symptoms than those below 30 years old. Those working on fixed-term contracts had more odds of developing depression than full-time pharmacy staff (OR=2.86; 95% CI 2.54-3.18; $p=0.003$). The odds of respondents with more than three years of working experience developing depression was 2.12 times odds compared to those working three years or below (95% CI 1.32-5.56; $p=0.011$). Sleeping time was also significantly associated with depression (OR=2.09; 95% CI 1.77-2.41; $p=0.020$).

When concerned about anxiety, three factors (age, employment contract, and working years) were significantly associated with anxiety among the pharmacists and pharmacist assistants working in Perlis. Like depression, pharmacy staff aged 30 years and above were more likely to develop anxiety than their counterparts (OR=2.14; 95% CI 1.87-2.41; $p=0.005$). Respondents with fixed-term contracts had 52% lower odds of developing anxiety than those working on a full-time basis (OR=0.48, 95% CI 0.17-0.79; $p=0.034$). Pharmacists and pharmacist assistants with working experience of more than three years had 2.56 times odds of developing anxiety than their counterparts (95% CI 2.28-2.84; $p=0.001$).

There were three factors that were significantly associated with stress in this study. Pharmacy staff aged 30 and above had 2.35 times odds (95% CI 1.98-2.67; $p=0.019$) of developing stress compared to the younger staff. Those with working experience of more than three years were less likely to have stress than their counterparts (OR=0.40; 95% CI 0.28-0.52; $p=0.007$). Besides, respondents with working hours more than eight hours had 2.02 times odds (95% CI 1.67-2.37; $p=0.042$) of developing stress compared to those who work less than or equivalent to eight hours. Nonetheless, the current study found no significant association between workplace spirituality with DAS ($p>0.05$).

Table 1. Sociodemographic characteristics and work-related information of the respondents (n=238)

Characteristics	n (%)
Age (years)	
<30	131 (55.0)
≥30	107 (45.0)
Gender	
Male	48 (20.2)
Female	190 (79.8)
Marital Status	
Single / Divorced	108 (45.4)
Married	130 (54.6)
No. of Children	
0	127 (53.4)
≥1	111 (46.6)
Races	
Malay	207 (87.0)
Non-Malay	31 (13.0)
Education level	
Diploma	81 (34.0)
Degree and above	157 (66.0)
Occupation	
Pharmacist	151 (63.4)
Pharmacist assistant	87 (36.6)
Workplace	
Public sector	175 (73.5)
Private sector	63 (26.5)
Employment contract	
Full-time contract	181 (76.1)
Fixed term contract	57 (23.9)
Monthly Income (RM)	
<3000	53 (22.3)
3000 - 5000	120 (50.4)
>5000	65 (27.3)
Working years	
≤3	87 (36.6)
>3	151 (63.4)
Working hours/day	
≤8	167 (70.2)
>8	71 (29.8)
Sleeping time/day (hours)	
≤6	150 (63.0)
>6	88 (37.0)

Table 2: Workplace spirituality among the pharmacists and pharmacist assistants in Perlis (n=238)

No.	Questions	n (%)				
		Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Team's sense of community						
1	People in my team feel as if they were part of a family	3 (1.3)	9 (3.8)	59 (24.8)	120 (50.4)	47 (19.7)
2	My team promotes the creation of a spirit of community	2 (0.8)	8 (3.4)	53 (22.3)	131 (55.0)	44 (18.5)
3	I feel that the members of my team/group support each other	2 (0.8)	8 (3.4)	42 (17.6)	127 (53.4)	59 (24.8)
4	I feel that the members of my team/group care about each other	2 (0.8)	8 (3.4)	45 (18.9)	129 (54.2)	54 (22.7)
5	I feel that the members of my team/group are linked by a common purpose	2 (0.8)	7 (2.9)	52 (21.8)	123 (51.7)	54 (22.7)
Alignment between organizational and individual values						
6	I feel positive about the values prevailing in my organization	2 (0.8)	7 (2.9)	65 (27.3)	124 (52.1)	40 (16.8)
7	People feel good about their future with the organization	3 (1.3)	10 (4.2)	73 (30.7)	102 (50.4)	32 (13.4)
8	My organization respects my "inner life"	6 (2.5)	8 (3.4)	69 (29.0)	113 (47.5)	42 (17.6)
9	My organization helps me to live in peace/harmony with myself	6 (2.5)	7 (2.9)	77 (32.4)	108 (45.4)	40 (16.8)
10	The leaders of my organization try to be helpful to the larger social good of the community	4 (1.7)	6 (2.5)	63 (26.5)	118 (49.6)	47 (19.7)
Sense of contribution to the community						
11	My work is connected with what I think is important in life	3 (1.3)	6 (2.5)	47 (19.7)	122 (51.3)	60 (25.2)
12	I see a connection between my work and the larger social good of my community	2 (0.8)	3 (1.3)	44 (18.5)	132 (55.5)	57 (23.9)
13	When working, I feel helpful for the whole society	5 (2.1)	0 (0)	36 (15.1)	121 (50.8)	76 (31.9)
Sense of enjoyment at work						
14	I experience joy in my work	4 (1.7)	8 (3.4)	58 (24.4)	118 (49.6)	50 (21.0)
15	Most days, I feel joy when coming to work	8 (3.4)	15 (6.3)	65 (27.3)	110 (46.2)	40 (16.8)
Opportunities for the inner life						
16	My spiritual values are not valued in my workplace	54 (22.7)	78 (32.8)	64 (26.9)	26 (10.9)	16 (6.7)
17	In my workplace, there is no room for my spirituality	56 (23.5)	85 (35.7)	57 (23.9)	25 (10.5)	15 (6.3)

Table 3: Assessment of depression, anxiety and stress among the pharmacists and pharmacist assistants in Perlis (n=238)

No.	Questions	n (%)			
		Did not apply to me at all	Applied to me to some degree	Applied to me to a considerable degree	Applied to me very much
Depression					
1	I couldn't seem to experience any positive feeling at all	138 (58.0)	72 (30.3)	17 (7.1)	11 (4.6)
2	I found it difficult to work up the initiative to do things	108 (45.4)	99 (41.6)	27 (11.3)	4 (1.7)
3	I felt that I had nothing to look forward to	170 (71.4)	46 (19.3)	12 (5.0)	10 (4.2)
4	I felt downhearted and blue	145 (60.9)	70 (29.4)	17 (7.1)	6 (2.5)
5	I was unable to become enthusiastic about anything	140 (58.8)	75 (31.5)	17 (7.1)	6 (2.5)
6	I felt I wasn't worth much as a person	179 (75.2)	39 (16.4)	12 (5.0)	8 (3.4)
7	I felt that life was meaningless	197 (82.8)	26 (10.9)	7 (2.9)	8 (3.4)
Anxiety					
8	I was aware of dryness of my mouth	115 (48.3)	73 (30.7)	29 (12.2)	21 (8.8)
9	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)	161 (67.6)	61 (25.6)	10 (4.2)	6 (2.5)
10	I experienced trembling (e.g., in the hands)	159 (66.8)	60 (25.2)	13 (5.5)	6 (2.5)
11	I was worried about situations in which I might panic and make a fool of myself	118 (49.6)	88 (37.0)	19 (8.0)	13 (5.5)
12	I felt I was close to panic	154 (64.7)	65 (27.3)	13 (5.5)	6 (2.6)
13	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	139 (58.4)	70 (29.4)	16 (6.7)	13 (5.5)
14	I felt scared without any good reason	168 (70.6)	47 (19.7)	14 (5.9)	9 (3.8)
Stress					
15	I found it hard to wind down	97 (40.8)	104 (43.7)	28 (11.8)	9 (3.8)
16	I tended to over-react to situations	103 (43.3)	103 (43.3)	25 (10.5)	7 (2.9)
17	I felt that I was using a lot of nervous energy	129 (54.2)	75 (31.5)	23 (9.7)	11 (4.6)
18	I found myself getting agitated	149 (62.6)	75 (31.5)	8 (3.4)	6 (2.5)
19	I found it difficult to relax	135 (56.7)	85 (35.7)	13 (5.5)	5 (2.1)
20	I was intolerant of anything that kept me from getting on with what I was doing	138 (58.0)	83 (34.9)	11 (4.6)	6 (2.5)
21	I felt that I was rather touchy	103 (43.3)	104 (43.7)	26 (10.9)	5 (2.1)

Table 4: Prevalence of DAS among pharmacists and pharmacist assistants in Perlis (n=238)

	With symptom	Without symptom
Depression	171 (71.8%)	67 (28.2%)
Anxiety	141 (59.2%)	97 (40.8%)
Stress	196 (82.4%)	42 (17.6%)

*The cut-off score for depression, anxiety, and stress were ≥ 10 , ≥ 8 , and ≥ 15 , respectively.

Table 5: Association between sociodemographic factors, work-related information, and workplace spirituality with DAS

Variable	Depression		Anxiety		Stress	
	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
Age						
<30 (R)	2.04 [#]	0.019*	2.14 [#]	0.005*	2.35 [§]	0.019*
≥30	(1.27, 5.26)		(1.87, 2.41)		(1.98, 2.67)	
Gender						
Male (R)	1.04 [#]	0.219	1.14 [#]	0.105	1.35 [#]	0.079
Female	(0.87, 3.22)		(0.77, 2.41)		(0.98, 2.47)	
Marital Status						
Single / Divorced	0.74 [#]	0.132	1.72 [#]	0.070	1.48 [§]	0.096
Married (R)	(0.40, 1.22)		(0.76, 2.16)		(0.95, 2.35)	
No. of Children						
0 (R)	0.59 [#]	0.062	2.24 [#]	0.075	1.03 [§]	0.126
≥1	(0.23, 1.02)		(0.96, 3.16)		(0.72, 3.56)	
Races						
Malay	3.04 [#]	0.219	2.41 [#]	0.105	0.69 [§]	0.109
Non-Malay (R)	(0.27, 5.26)		(1.17, 4.21)		(0.27, 1.97)	
Education level						
Diploma (R)	0.99 [#]	0.142	1.24 [#]	0.251	1.54 [§]	0.171
Degree and above	(0.43, 1.22)		(0.96, 2.71)		(0.92, 3.81)	
Occupation						
Pharmacist (R)	0.87 [#]	0.211	1.51 [#]	0.357	2.15 [#]	0.187
Pharmacist assistant	(0.13, 1.22)		(0.71, 3.40)		(0.83, 4.11)	
Workplace						
Public sector	2.10 [#]	0.510	2.22 [#]	0.289	1.15 [#]	0.141
Private sector (R)	(0.40, 4.22)		(0.91, 4.31)		(0.53, 2.17)	
Employment contract						
Full-time (R)	2.86 [#]	0.003*	0.48 [#]	0.034*	1.34 [§]	0.122
Fixed term contract	(2.54, 3.18)		(0.17, 0.79)		(0.81, 2.51)	
Monthly Income						
<RM5000	3.05 [#]	0.222	1.15 [#]	0.074	2.31 [§]	0.157
>RM5000 (R)	(0.81, 5.23)		(0.77, 3.82)		(0.81, 3.58)	
Working years						
≤3 (R)	2.12 [#]	0.011*	2.56 [#]	0.001*	0.40 [§]	0.007*
>3	(1.32, 5.56)		(2.28, 2.84)		(0.28, 0.52)	
Working hours/day						
≤8 (R)	1.23 [#]	0.281	1.1 ^{9#}	0.112	2.02 [#]	0.042*
>8	(0.71, 2.33)		(0.33, 2.27)		(1.67, 2.37)	
Sleeping time/day (hours)						
≤6	2.09 [#]	0.020*	0.88 [#]	0.185	1.34 [§]	0.161
>6 (R)	(1.77, 2.41)		(0.53, 1.96)		(0.62, 2.51)	
Workplace spirituality						
Low	1.35 [#]	0.305	2.71 [#]	0.280	1.35 [#]	0.132
High (R)	(0.80, 3.72)		(0.71, 3.31)		(0.73, 2.56)	

(R) – reference group; OR – odds ratio; 95% CI – 95% confidence interval; [#] Pearson's chi-square; [§] Fisher exact test; * statistically significant at $p < 0.05$.

Discussion

Despite its evident importance in assessing healthcare workers' psychological status, the literature on DAS among pharmacists and pharmacist assistants in Malaysia was relatively scarce. Most of the available studies were conducted among the pharmacy students (15,16). In this study, the prevalence of depression, anxiety and stress was 28.2%, 40.8%, and 17.6%, respectively. The psychological distress trend was similar to the results of a study conducted among emergency medical officers in Malaysian hospitals, which showed that anxiety was in the highest percentage, followed by depression and stress (5).

There was a significant association between age with DAS among the pharmacy staff working in Perlis in the current study. It was demonstrated that older staff had more odds of developing DAS compared to younger adults. A similar finding was observed in two other studies in which older adults were associated with DAS compared to different age groups. The studies showed that the elderly were more vulnerable to stress and depression than other ages due to increasing stressors resulting from declining health and

dwindling social relationships (17,18). One of the study revealed that gender was associated with anxiety (18). However, our study showed no association between gender and DAS among the pharmacy staff.

The current study found that employment contracts and working years were associated with depression and anxiety. Consistent with a study conducted in Japan, the employment contract was associated with the workers' psychological health, especially depression (19). In our study, pharmacy staff with fixed-term contracts were more susceptible to develop depression compared to those with a full-time contract. Studies consistently showed that temporary workers experience more job insecurity than permanent workers. There was also growing evidence indicating that job insecurity was one of the most common sources of depression among the contract workers (20). Nevertheless, the present study found that those with fixed-term contracts were less likely to develop anxiety than full-time pharmacy staff.

In contrast to a study conducted in Klang Valley, Malaysia which found that increased working experience was associated with decreased depression level, the current study found that those with more working years were associated with a higher risk of depression and anxiety (6). Pharmacy staff with more working years may need to bear a greater responsibility for their task and duties to achieve their work-related targets, which could lead to depression and anxiety. Several other studies, on the other hand, showed that working experience was not associated with depression, anxiety and stress (4, 5). Besides that, this study showed that long working hours had a significant association with stress levels. The finding was consistent with a study conducted by Yang *et al.* (2017) which found that higher average working hours were related to higher stress levels (4). Long working hours negatively impact work performance, leading to poor decision-making, fatigue, and emotional distress.

Apart from age, employment contract and working years, our study showed that shorter sleep time was associated with depression. Similarly, a study stated that sleep deprivation was associated with depression since sleep is essential for individuals to recover physically and emotionally (21). Sleep deprivation weakens the ability to control emotions, which results in bad moods, negative thinking, and decreased empathy.

Our study found no association between workplace spirituality and depression, anxiety and stress among the pharmacy staff working in Perlis. There was a lack of literature studying the association between workplace spirituality and DAS. Most of the available studies on workplace spirituality were conducted to look at its association with job satisfaction (7), employee productivity (9), and organisation commitment (8). There was also very scarce evidence to substantiate the effects of certain spiritual activities on the overall mental health.

The main limitation in this study was that the results were analysed using bivariate analysis. Further downstream analysis, such as multiple logistic regression, may be used to account for other confounding factors while examining the association between sociodemographic and work-related factors with DAS. Besides that, the findings of this study were limited only to pharmacy staff working in Perlis as concerns about the results' generalisability to the entire population may arise. Future studies may be carried out on a larger scale involving more states across Malaysia.

Conclusion

In conclusion, anxiety was found to be the most common symptom experienced by pharmacy staff in Perlis, followed by depression and stress. Age and working experience were factors associated with DAS. Attention should be focused on early recognition of DAS among the healthcare professionals and specific strategies to address the psychological distress because poor mental health status among healthcare workers could directly affect the work quality, safety and the entire healthcare system.

Acknowledgement

The authors would like to thank the Director General of Health for the permission to publish this study. The authors would also like to thank Mr Ng Yit Han for his advice on data analysis for this study

Conflict of Interest Statement

No external funding was received for this study. The authors declared no potential conflict of interest.

References

1. World Health Organization. Atlas of mental health resources in the world 2001. Available from: <https://apps.who.int/iris/handle/10665/66910>
2. Institute for Public Health. National Health and Morbidity Survey (NHMS) 2019: Non-communicable diseases, healthcare demand, and health literacy-Key Findings. 2020.
3. Kim M-S, Kim T, Lee D, Yook J-h, Hong Y-C, Lee S-Y, et al. Mental disorders among workers in the healthcare industry: 2014 national health insurance data. *Annals of occupational and environmental medicine*. 2018;30(1):1-8.
4. Yang KW, Lee MTL, Ahmad K. Depression, anxiety and stress among healthcare professionals (DASHCP): A cross sectional study.
5. Yahaya SN, Wahab SFA, Yusoff MSB, Yasin MAM, Rahman MAA. Prevalence and associated factors of stress, anxiety and depression among emergency medical officers in Malaysian hospitals. *World journal of emergency medicine*. 2018;9(3):178.
6. Amin NA, Quek KF, Oxley JA, Noah R, Nordin R. Emotional Distress as a Predictor of Work-Related Musculoskeletal Disorders in Malaysian Nursing Professionals. *The international journal of occupational and environmental medicine*. 2018;9(2):69.
7. Fatima T, Naz A, Chughtai S, Khawaja KF. Workplace spirituality and job satisfaction: Moderating role of intrinsic and extrinsic values. *Paradigms*. 2017;11(1):58.
8. Rego A, e Cunha MP. Workplace spirituality and organizational commitment: an empirical study. *Journal of organizational change management*. 2008.
9. Biswakarma G. Impact of workplace spirituality on employee productivity in Nepalese hospitality organizations. *Journal of Tourism and Hospitality Education*. 2018;8:62-76.
10. Dyrbye LN, Shanafelt TD, Sinsky CA, Cipriano PF, Bhatt J, Ommaya A, et al. Burnout among health care professionals: a call to explore and address this underrecognized threat to safe, high-quality care. *NAM perspectives*. 2017.
11. Suzuki K, Ohida T, Kaneita Y, Yokoyama E, Miyake T, Harano S, et al. Mental health status, shift work, and occupational accidents among hospital nurses in Japan. *Journal of occupational health*. 2004;46(6):448-54.
12. Schwenk TL, Gorenflo DW, Leja LM. A survey on the impact of being depressed on the professional status and mental health care of physicians. *The Journal of clinical psychiatry*. 2008;69(4):617-20.
13. Campbell JK, Hwa YS. Workplace spirituality and organizational commitment influence on job performance among academic staff. *Jurnal Pengurusan (UKM Journal of Management)*. 2014;40.
14. Lovibond, SH. & Lovibond, PF. *Manual for the Depression Anxiety Stress Scales*. 2nd Ed. Sydney: Psychology Foundation; 1995.
15. Radeef AS, Faisal GG. Depression, Anxiety and Stress Among Pharmacy Students in Malaysia. *Journal of International Dental and Medical Research*. 2020;13(2):628-32.
16. Yusof NSM, Zainal ZA, Huri HZ, Jacob SA, Alwi MNM, Hassan Y, et al. Prevalence of Depression among Undergraduate Pharmacy Students in Malaysia. *International Journal of Pharmaceutical Research*. 2020;12(3).
17. Mirzaei M, Ardekani SMY, Mirzaei M, Dehghani A. Prevalence of depression, anxiety and stress among adult population: results of Yazd Health Study. *Iranian journal of psychiatry*. 2019;14(2):137.
18. Mohammadi M-R, Davidian H, Noorbala AA, Malekafzali H, Naghavi HR, Pouretamad HR, et al. An epidemiological survey of psychiatric disorders in Iran. *Clinical practice and epidemiology in mental health*. 2005;1(1):1-8.
19. Kompier M, Ybema JF, Janssen J, Taris T. Employment contracts: cross-sectional and longitudinal relations with quality of working life, health and well-being. *Journal of occupational health*. 2009:0903130062.
20. Boya FÖ, Demiral Y, Ergör A, AKVARDAR Y, De Witte H. Effects of perceived job insecurity on perceived anxiety and depression in nurses. *Industrial Health*. 2008;46(6):613-619.
21. Tsuno N, Besset A, Ritchie K. Sleep and depression. *The Journal of clinical psychiatry*. 2005;66(10):1254-69.