Psychological morbidities amongst house officers in Sarawak General Hospital Kuching

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ABSTRACT

Introduction: Psychological morbidities are common amongst healthcare professionals particularly among junior house officers (HO) who are in a transitional stage from being a medical student to a doctor. They undergo many stressors during this period and hence might suffer from higher psychological morbidities such as depression, anxiety and stress. Objectives: To determine the prevalence of depression, anxiety and stress among HO in Sarawak General Hospital (SGH), Kuching, Sarawak. The social-demographic factors were also evaluated to identify the high-risk groups.

Materials and methods: This is a descriptive cross-sectional study involving 227 house officers in SGH over a period of three months. The social-demographic data such as age, sex, marital status, current posting, duration of posting, place of graduate and state of origin were obtained from interviews with the respondents. The Depression, Anxiety and Stress scale (DASS) questionnaire was completed to assess the psychological morbidities.

Results: HO were found to have high prevalence of psychiatric morbidities such as depression (42%), anxiety (50%) and stress (42.7%). Foreign graduates showed a significantly higher odds of depression (odds ratio, OR: 3.851; 95% confidence interval, 95%CI: 2.165, 6.851), anxiety (OR: 2.427; 95%CI: 1.394, 4.225) and stress (OR: 2.524; 95%CI: 1.439, 4.427) as compared to local graduates.. Further, non-Sarawakians were observed to have higher odds of developing anxiety (OR: 1.772; 95%CI: 1.022, 3.073) as compared to the Sarawakians.

Conclusion: HO in SGH had high prevalence of depression, anxiety and stress. Therefore, psychiatric morbidities should be screened regularly amongst the HOs in Malaysia.

KEY WORDS:
Psychological morbidities, house officers, DASS, Malaysia

INTRODUCTION

Health care is a field, which deals with matters of life and death on a daily setting. Due to this, working in a healthcare environment can be stressful. These stressful situations are further compounded by the long working hours, lack of staffing and an expected level of performance by the peers and supervisors. Hence, psychological morbidities seem to be higher amongst health care workers. This situation is especially true when junior doctors begin their houseman posting. The transition from being a medical student to a junior house officer (HO) itself is a stressful experience.

The unfamiliar roles and responsibilities suddenly become a burden to them. The long and odd working hours as well as the unfamiliar environments in which they are put into further exacerbates these.

In Malaysia, the transition from a medical student to a registered and qualified medical officer takes approximately two years. After graduating they join hospitals as HOs and are required to rotate among six departments each consisting of four months to make up a total of 24 months.[1] During this period, they are required to learn, observe and perform various tasks required as a HO to enable them to function independently when they become medical officers.[1]

Many studies have been done regarding the prevalence of depression, anxiety and stress and its associated factors among trainee doctors. Over the years, it is noted that stress levels remain high in junior doctors based on a study in Germany.[2] The results were also almost replicated by another study in Germany where junior doctors had higher incidences of depression.[3] A study done in India in 2014 showed that 47.9% of HOs were found to be under stress and the top five stressors reported by HOs were night calls, workload, time pressure, working alone, and coping with diagnostic uncertainty.[4] A cross-sectional study of three hospitals of Saudi medical colleges revealed that nearly 73% of their interns were under stressed condition.[5]

A study conducted in one of the university hospitals in Malaysia showed that up to 34% of the doctors had a certain degree of psychological stress.[6] In Kelantan, Malaysia, it was noted that up to 56% of HOs reported stress, a larger 57% reported levels of anxiety and 44% reported levels of depression.[7] A study done in 2015 showed that the prevalence of stress, anxiety and depression among HOs in Kota Kinabalu, Sabah was 57.1%, 63.7% and 42.9% respectively.[8]

The aim of this study is to determine the prevalence of psychological morbidities such as depression, anxiety and stress among HOs in a teaching tertiary centre, Sarawak General Hospital, its associated factors and to identify the

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high-risk groups. Hopefully this study can create awareness among local researchers and relevant authorities to initiate aggressive planned health care reforms.

Study design and Subjects
This was a descriptive cross-sectional study conducted in Sarawak General Hospital (SGH) which is the only teaching hospital in the state capital of Kuching. Every year HOs from various states of Malaysia are posted to SGH for housemanship which currently has approximately 300 HOs. Data collection was done among HOs in SGH from May to July in 2015. Universal sampling method was used.

Inclusion criteria included: Malaysian HOs undergoing training in SGH and consented for the study. Non-Malaysian HOs, and who did not consent for the study or have a diagnosed psychiatric condition or is under follow up with the psychiatric department were excluded.

Sample size
Sample size was calculated using Epi Info Version Seven software using the single proportion formula.
$n = [z/d]^2 p(1-p)$

Based on a population of 300 house officers and using the highest prevalence rate of 57% in the anxiety domain (DASS) from a previous local study.[9] At a confidence level of 95% the minimum number of samples required is 168. However, factoring a possible dropout rate of 20%, the required number of total samples required is 211.

Study instruments
HOs who fulfilled the inclusion criteria were given a self-administered Depression, Anxiety and Stress Scale (DASS) questionnaire to be completed and returned. They were also required to provide their social-demographic data, which were incorporated into the questionnaire. Both the questionnaires were in English.

The DASS 42 is a 42 item self-rated questionnaire designed to measure the severity of a range of symptoms common to depression, anxiety and stress. It measures these three domains concurrently. In the depression domain, the scale assesses dysphoria, hopelessness, devaluation of life, self-depreciation, lack of interest/ involvement, anhedonia and inertia. In the anxiety domain, the scale assesses autonomic arousal, skeletal muscle situational anxiety and subjective experience of an anxious effect. As for the stress domain, the scale assesses difficulty relaxing, nervous arousal, ease of being upset or agitated, irritable/over-reactive and impatient.

The DASS 42 has a very good reliability as the Cronbach's alpha is 0.91 for depression, 0.84 for anxiety and 0.90 for stress.[10,11] In completing the DASS, the individual HO is required to indicate the presence of a symptom over the previous week. Each item is scored from 0 (did not apply to me at all over the last week) to 3 (applied to me very much or most of the time over the past week) The scoring for the DASS questionnaire is divided to five categories (normal, mild, moderate, severe and extremely severe) according to the various scales, thus scores ten, eight, fourteen and above for depression, anxiety and stress respectively are categorized as present for the psychological morbidities studied.[11]

The sociodemographic data to be obtained from the respondents were namely age, gender, race, current posting, duration of housemanship, graduating medical schools (university) categorised as either local university which included the various twinning program medical schools, and foreign graduates from universities elsewhere, marital status (single or married) and their place of origin (Sarawakian or non-Sarawakian).

Statistical analysis and Ethical consideration
Data analysis was performed with SPSS (statistical package for social studies) and the appropriate statistical tests were used to analyse the data collected. The calculated outcome variables were presented in mean (SD) and frequency (%) whenever possible. The association between the presence of depression, anxiety and stress, and the other studied variables were analysed using Chi square analysis. The studied psychological morbidities were analysed as two outcomes, namely with or without depression, anxiety or stress and were present in the studied population.[11] Multivariable analysis using logistic regression was performed to account for confounding factors. This study would consider a 'p' value of less than 0.05 significant with a confidence interval of 95%. Any house officers who scored significantly in the questionnaires were referred to the psychiatric department for further evaluation and assessment.

The Universiti Sains Malaysia Ethics Committee and the Malaysia Research Ethic Committee, Ministry of Health, Malaysia approved the research project (NMRR-15-216-24872).

RESULTS

A total of 227 HOs, 100 males and 127 females were enrolled into the study and the response rate was 94.6%. Their mean age of 26.1 years (standard deviation, SD: 1.91). In total 49.8% of the HOs were Sarawakian while the remaining were from other states in Malaysia. Chinese makes up the majority (55.1%) followed by Malays (26.4%), Bumiputra Sarawakians (9.3%), Indians (7.9%) and other races (1.3%). Their departments they were working are surgical (19.8%), paediatrics (18.5%), orthopaedics (18.5%), medical (15.9%), obstetrics and gynaecology (13.2%), emergency and trauma (8.4%) and others (2.3%). A total of 52.5% graduated from local universities while 47.1% were from foreign universities. Table I summarises the social-demographic characteristic.

The overall prevalence of depression, anxiety and stress amongst HOs in SGH was high. The highest psychological morbidity noted was anxiety 50.0%, followed by stress 43.0% and depression 42.0% (Table I). The association between social-demographic characteristics and depression, anxiety, stress of HOs is described in Table II.

A multivariate logistic regression analysis was performed to adjust the confounding factors. There was a significant association between local and foreign graduates with depression, anxiety and stress. It was observed that foreign graduates had significantly higher odds for developing depression (odds ratio, OR: 3.851; 95% confidence interval, 95%CI: 2.165, 6.851) as compared to local graduates. Foreign

Table I: Social-demographic profiles, posting distribution and prevalence of psychological morbidity amongst house officers (N=227)

	n	%	Mean (SD)
Gender			
Male	100	44.1	
Female	127	55.9	
Age			26.08 (1.91)
23-25	76	33.5	
26-28	143	63.0	
29-30	8	3.5	
Ethnicity			
Malay	60	26.4	
Chinese	125	55.1	
India	18	7.9	
Bumiputera Sarawak	21	9.3	
Bumiputera Sabah	2	0.9	
others	1	0.4	
Origin			
Sarawak	113	49.8	
Non Sarawak	114	50.2	
Marital Status			
Unmarried	202	89.8	
Married	23	10.2	
Graduate			
Local	117	51.5	
Foreign	104	45.8	
Posting			
Medical	36	15.9	
Surgical	45	19.8	
Obstetrics and Gynaecology	30	13.2	
Paediatrics	42	18.5	
Accident and Emergency	20	8.8	
Orthopedics	42	18.5	
Anesthesiology	5	2.2	
Others	7	3.0	
Psychological morbidity			
Depression			
No	131	58.0	
Yes	95	42.0	
Anxiety			
No	113	50.0	
Yes	113	50.0	
Stress			
No	129	57.3	
Yes	96	42.7	

Table II: The association between house officers' social-demographic characteristics and depression, anxiety, stress

		Depression			Anxiety			Stress		
		No n(%)	Yes n(%)	P-value	No n(%)	Yes n(%)	P-value	No n(%)	Yes n(%)	P-value
Gender	Male	57(43.5)	43(45.3)		42(46.0)	48(42.5)		59(45.7)	41(42.7)	
	Female	74(56.5)	52(54.7)	0.794	61(54.0)	65(57.5)	0.592	70(54.3)	55(57.3)	0.651
Marital Status	Unmarried	118(90.1)	83(89.2)		100(88.5)	101(91.0)		118(91.5)	82(87.2)	
	Married	13(9.9)	10(10.8)	0.84	13(11.5)	10(9.0)	0.538	11(8.5)	12(2.8)	0.304
Graduate	Local	85(66.4)	32(34.8)		71(64.0)	46(42.2)		78(61.9)	38(40.9)	
	Foreign	43(33.6)	60(65.2)	0.01*	40(36.0)	63(57.8)	0.001*	48(38.1)	55(59.1)	0.002*
Origin	Sarawak	69(52.7)	43(45.3)		65(57.5)	47(41.6)		68(52.7)	43(44.8)	
	Others	62(47.3)	52(54.7)	0.272	48(42.5)	66(48.4)	0.017*	61(47.3)	53(55.2)	0.24

*p<0.05

Table III: The association between house officers' social-demographic characteristics and depression, anxiety, stress (multivariate logistic regression)

		Depression OR (95% CI)	Anxiety OR (95% CI)	Stress OR (95% CI)
Gender	Male			
	Female	0.963 (0.542, 1.708)	1.233 (0.707, 2.150)	1.151(0.657, 2.016)
Marital Status	Unmarried			
	Married	1.513 (0.595, 3.846)	0.859(0.347, 2.128)	1.905(0.771, 4.705)
Graduate	Local			
	Foreign	3.851 (2.165, 6.851)	2.427(1.394, 4.225)	2.524(1.439, 4.427)
Origin	Sarawak			
	Others	1.217 (0.690, 2.148)	1.772(1.022, 3.073)	1.260(0.724, 2.193)

graduates were also found to have higher odds of developing anxiety with (OR: 2.427; 95%CI: 1.394, 4.225) and stress (OR: 2.524; 95%CI: 1.439, 4.427) as compared to the local graduates. Further, in the anxiety domain, non-Sarawakians were observed to have higher odds of developing anxiety (OR: 1.772; 95%CI: 1.022, 3.073) as compared to the Sarawakians. There is no significant association between other social-demographic factors such as age, gender, marital status, race, and posting with depression, anxiety and stress. (Table III)

DISCUSSION

This study showed that the HOs working in Sarawak General Hospital have high levels of depression, anxiety and stress. This is consistent with all other previous studies performed in Malaysia and other countries.[11-13]

This study observed a significant difference in depression, anxiety and stress scores between local and foreign graduates, where those graduating from foreign universities show a higher depression, anxiety and stress scores. It is noted that there were some discrepancy between the accreditation of these various foreign universities.[14,15] The syllabus and sometimes the language used were not consistent with the standard medical syllabus in Malaysian medical schools. When HOs graduate from these foreign universities, they were trained differently and hence this might lead them to experience a higher prevalence of depression, stress and anxiety, as they struggle to grasp the practice of medicine in Malaysia.

Further, in the final years of medical school, the local students would have had postings in the various departments in local hospitals, these acts as preparatory factor to the practice in the local hospital scene where these students will be able to acclimatise and adapt to the wards, staff and working environment. On the other hand, foreign medical graduates would have to acclimatise and adapt to the Malaysian hospital during the period of housemanship. This certainly will explain the higher depression, anxiety and stress scores amongst them.

Another possible reason is the better expectation from a foreign graduate versus a local graduate. It is often regarded that the foreign graduates would perform better or at par with the local graduate and hence these causes 'performance anxiety' as they are often given a higher scrutiny as compared to the local graduates.[15,16] The syllabus of the medical education might also play a role in this increase in DASS scores. Many a time, the emphasis of diseases occurring in other parts of the world outweigh the common diseases in Malaysia, hence when the junior HOs are exposed to these local illnesses and diseases, they are not well versed in it and hence causes an increase in the DASS scores.

The training of medical students in a foreign university also differs. Medical students abroad are often not exposed to procedures, due to the strict policies in those hospitals, many medical students are merely observers of different procedures such IV-line insertion, catheterisation. Compared to local medical students, who have the chance to perform these procedures, when this lack of experience will show among foreign graduates who become HOs and result in psychological morbidities.

With this relatively high prevalence of psychological morbidities identified in this study, it is now important to identify the reasons behind this prevalence. In the context of HOs working in Kuching, Sarawak, there are many other factors that can be considered, such as the working environment, the supervisors, the shift system and other interpersonal issues. Hence it should be highlighted that all new incoming HOs be given counselling and stress management before entering housemanship. A preliminary psychological assessment should also be undertaken to assess the potential for developing psychological morbidities.

Some of the limitations of this study were that it was conducted only in one centre. A multi-centre study is recommended so as to assess the prevalence of depression, anxiety and stress in all training hospitals. Apart from that the cross-sectional study design itself also did not allow us to look into the possibility of difference in the psychological morbidities at different period of housemanship as initial few months of housemanship may be a more stressful period.

CONCLUSION

House officers in SGH have high prevalence depression, anxiety and stress. HOs graduating from foreign medical schools are more prone to develop depression, anxiety and stress. With these findings in mind, it would be a good idea to consider some sort of intervention to prevent the increase in the psychological morbidities amongst HOs especially those who graduated from foreign universities. Various forms of psychosocial intervention can be performed such as counselling, coping skills and stress management. The

accrediting board from the Ministry of Health or Education should look into the training of these HOs from those foreign universities as to assess the medical curriculum as to be accepted and relevant in the local Malaysian environment. The supervisors and senior staff should also be advised to look out for possible psychological morbidities amongst these HOs and to refer them early to the relevant units as to prevent worsening of their psychological morbidities.

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