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Original Article

Psychiatry Section

Prevalance of Stress among International Post-graduate Doctors at the University Malaya Medical Centre (UMMC), Kuala Lumpur

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ABSTRACT

Background: The stress which affects the doctors is receiving increased attention. Researchers have shown that hospital doctors are under high levels of stress from a number of sources. This is of importance because it is known that the quality of care that the physicians give is directly related to their own health.

Objectives: To study the prevalence of stress among international postgraduate doctors at the University Malaya Medical Centre (UMMC), Kuala Lumpur.

Methodology: Post-graduate doctors completed General Health Questionnaires (GHQ-28) which covered *Somatic Symptoms*, *Anxiety and Insomnia*, *Social Dysfunction* and *Severe Depression*. The results were converted into a percentage scale by summing the scores of the individual items; in this overall scale, higher scores indicated increased stress. A total of 50 international doctors from different clinical and non-clinical medical subspecialties took part in the study.

Results: The prevalence of stress among the international doctors was 54% (95% CI: 44–63%). The highest levels of stress were reported for "*Anxiety and Insomnia*" and the lowest level was reported for "*Severe Depression*".

Furthermore, the individual questions analysis revealed the highest scores for three questions: "*felt constantly under strain*", "*been feeling well and in good health*" and "*been managing to keep yourself busy and occupied*".

Conclusions: The results should be interpreted with caution, as the study is based on a small sample. However, it does provide a useful first insight into stress and dissatisfaction, which have important implications for the wellbeing of international post-graduate doctors.

Key Words: General Health Questionnaire, Stress, international, Doctors

INTRODUCTION

Work has always been a major part of a person's life and a common source of stress for many people. Most of the jobs produce some degrees of stress, which may be increased in individuals who work in occupational environments that are demanding. Health professionals work in such stressful environments and they are particularly vulnerable to severe forms of emotional distress as compared to those who do other types of organizational work.

The British Medical Association's 1992 report which was entitled "Stress and the Medical Profession", began a concern that UK doctors have high stress levels [1]. Though this study was exclusively among the house-officers (interns), other studies showed that senior hospital doctors were not an exception to this. Caplan found that 47% of 389 hospital consultants, general practitioners, and health service managers were stressed [2].

International post-graduate students and doctors are more vulnerable to stress than their counterparts. This is because, making a transition to a new environment involves adjusting to unfamiliar people, tasks, and situations. Their mental and physical health are affected, because one's existing personal network is no longer useful. In a study of various groups in cross-cultural transition, international students were found to exhibit the most adjustment problems [3].

While the stress among doctors in general has been extensively studied – only little is known about the stress which is experienced by international post-graduate doctors. The recent rapid and extensive changes in the post-graduate opportunities in Malaysia generally and in UMMC in particular, lead to many international doctors pursuing their post-graduate studies here in UMMC. This pilot study investigated the prevalence of emotional distress among international post-graduate doctors at the University Malaya Medical Centre, Kuala Lumpur, by using the General Health Questionnaire (GHQ-28) [4,5].

MATERIALS AND METHODS

Study Centre

This study was conducted at the University Malaya Medical Centre (UMMC). UMMC is situated at the periphery of the Federal Territory. This centre serves as a training centre for medical students and doctors who undergo post-graduate training in various fields of specialization which are offered there. There were 476 doctors who were employed either by the University or by the centre. Of these, 70 were international doctors. A majority of the international doctors were registered with the University Malaya as post-graduate students.

Participants

This study was restricted to the international post-graduate doctors because this group was comprised of a majority of the doctors at UMMC and also, it was the most stress-vulnerable group.

All of the international post-graduate doctors (clinical or non-clinical students) were approached. Their names were obtained from the Post-Graduate Secretariat at the Deans office, Faculty of Medicine, UMMC. Each doctor was given a package which consisted of an information sheet regarding the details of the study, a proforma for personal details and the General Health Questionnaire (GHQ-28) (Appendix 1). The packages were personally delivered and they were collected by the researcher and 5 intermediaries from different departments in the UMMC. No doctor declined from participating in the study.

Data collected

The following data was collected in addition to the GHQ-28 questionnaires: age, gender, marital status, type of residence (students' hostel vs. others), major field of specialization, length of stay in Malaysia, country of origin and a past history of psychiatric disorders.

Stress Assessment

The GHQ-28 was used for the stress assessment among the study samples. GHQ-28 is a self-report scale which consists of 28 items, which is used to measure the general well being or the quality of life. It tests 4 areas of stress: *Somatic Symptoms*, *Anxiety and Insomnia*, *Social Dysfunction*, *and Severe Depression* [4,5]. The GHQ scoring was assessed by using the Likert method in which each item has a score of zero to three (0-1-2-3), with the maximum score being 84. For convenience, the score was taken as the 'stress score'. The GHQ was validated as a suitable measure of the mental health at the work place [5,6].

Statistical Analysis

Statistical analyses were performed by using SPSS version 11.5.0 (SPSS Inc, Chicago, IL). Mean (standard deviation) and percentages were used wherever appropriate to describe the study variables. The Two independent-sample t-test and the Chi square test were used to test the significance wherever appropriate. The correlation coefficient, r was used to evaluate the correlation between the GHQ score and its subscales. A p-value of < 0.05 was considered to be statistically significant.

RESULTS

Sociodemographic data

Fifty out of the total 70 international post-graduate doctors returned their questionnaires, which resulted in a response rate of 71.4%.

[Table/Fig-1] shows the demographic and the descriptive data of the study sample. The median (interquartile range, IQR) of the age and the duration of stay in Malaysia were 35 (32.7-37) and 4 (2.7 - 4) years respectively. A majority of the sample (46, 92%) were males. Married students constituted 33 (66%) of the sample. Most of the doctors (37, 74%) were enrolled in non-clinical or research projects (public health, parasitology, … etc). 44 (88%) of the study sample was from Sudan and the remaining 22% were from Pakistan (3), Bangladesh (1), Myanmar (1) and other countries (1). None of the respondents reported any history of a psychiatric disorder.

Characteristic	Statistic (n = 50)
Age, y, median (IQR)	35 (32.7 - 37)
Duration of stay in Malaysia, y, median (IQR)	4 (2.7 - 4)
Males, n (%)	46 (92)
Married, n (%)	33 (66)
Enrolled in clinical specialty, n (%)	13 (74)
Staying in-campus	8 (16)
History of psychiatric disorder	0 (0)
Country of origin	
Sudan	44 (88)
Pakistan	3 (6)
Others	3 (6)

[Table/Fig-1]: Socio-demographic characteristics of the study group

GHQ-28 Score

The mean (SD) of the 4 GHQ-28 components (the score ranged from 0 to a maximum of 21 points) for the whole study group ranged from 7.6 (4.5) for the "*Anxiety and Insomnia"* to 4.5 (4.4) for the "*Severe Depression"* components [Table/Fig-2]. This indicated high levels of anxiety and insomnia, followed by somatic and social dysfunction with less severe depression among the studied group.

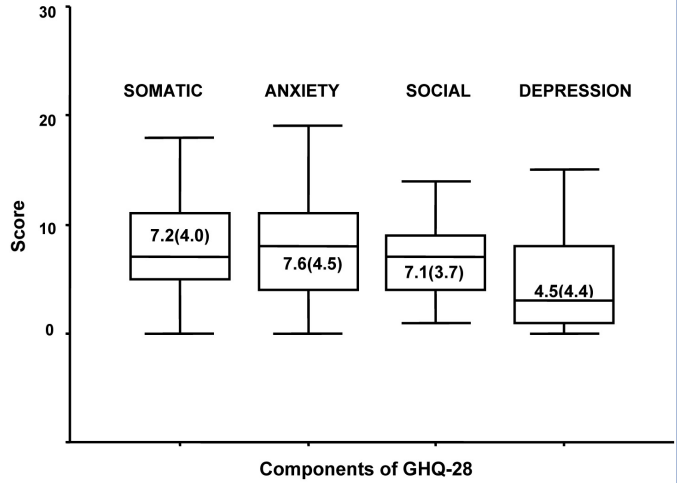
Overall, the study group showed a relatively high mean (SD) GHQ-28 score of 26.4 (13.3) (the overall total score ranged from 0 to a maximum of 84 points) [Table/Fig-3]. This result was translated to a stress prevalence of 54% (95% CI: 44 – 63%) among the studied international post-graduate doctors.

Differences in the GHQ-28 score which were caused by the study variables

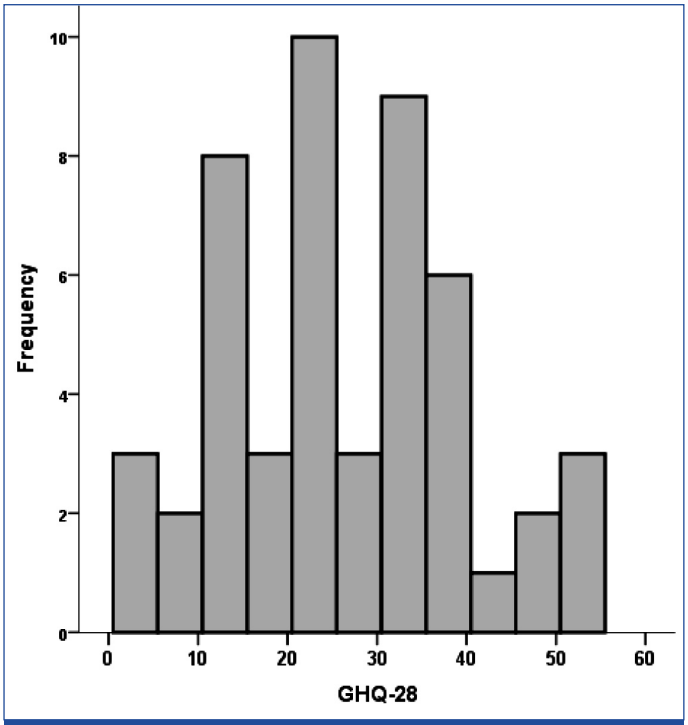
There were no statistically significant differences in the GHQ-28 components (somatic symptoms, anxiety and insomnia, social dysfunction and sever depression) which were caused by the study variables (gender, marital status, residence, field of study and the length of stay in Malaysia).

Correlation (r) between the GHQ score and its subscales

[Table/Fig-4] shows that there was a statistically significant correlation between the GHQ-4 components and the overall GHQ-28 (r ranged from 0.43 to 0.87, $p < 0.05$).



[Table/Fig-2]: The mean (SD) values for the 4 components of General Health Questionnaires (GHQ-28)



[Table/Fig-3]: The distribution of the overall General Health Questionnaires (GHQ-28)

	GHQ Score	Somatic	Anxiety	Social	Depression
Depression	0.70*	0.49*	0.43*	0.37*	-
Social	0.79*	0.65*	0.66*	-	
Anxiety	0.87*	0.71*	-		
Somatic	0.87*	-			
GHQ score	-				

[Table/Fig-4]: Correlation (r) between General Health Questionnaires (GHQ-28) score and its subscales. *p<0.05

DISCUSSION

Our data suggested that the stress prevalence is 54% (95% CI: 44 – 63%) among the international post-graduate doctors in UMMC. There is a lack of similar studies in Malaysia to compare with ours. However, on comparing our findings with those of other studies on the stress among doctors from other countries, the prevalence in our study was found to be comparable with that in those studies. For example, Firth-Cozens found that the emotional distress was 50% in a group of 170 junior house officers, out of which 28% showed an evidence of depression [7]. A study which was done by Caplan found that 47% of 389 hospital consultants, general practitioners, and health service managers were stressed [2].

In addition to the universal stressors that doctors encounter, the foreign post-graduate doctors face additional stressors including culture shock, change in the social status, change in the economic status, expectations about their academic performance, and family-related pressures.

Male and female doctors showed comparable stress scores in this study. Others found that the incidence of depression, depressive symptomatology and the risk of suicide in female doctors was higher than in their male colleagues [8-11]. This was speculated to reflect on the conflict of motherhood, spousal duties and career targets.

Marital status did not make any difference in the stress scores among doctors in this study. However, several studies from western countries have indicated that marriage was a preventing factor for depression [12-14]. A study from the UK showed the protective effect of marriage [14].

A limitation of this study was its small sample size and its cross-sectional design. Furthermore, we did not look at the causes for the stress among the foreign doctors. However, our study was the first to describe stress among this vulnerable group in Malaysia. Our use of valid stress scales increases the validity of our results and the generalizability of our results to other academic institutions in Malaysia.

CONCULSION

The prevalence of stress among the international post-graduate doctors was found to be 54% (95% CI: 44 – 63%). These results should be interpreted with caution, as this study was based on a small sample size. However, it does provide a useful first insight into the stress among the international post-graduate doctors in UMMC, which have important implications for their wellbeing. Further studies to investigate the causes of stress among international postgraduate doctors are needed

ABBREVIATIONS

UMMC University Malaya Medical Centre.
GHQ-28 General Health Questionnaire.

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