ORIGINAL ARTICLE

STRESS, STRESSORS AND COPING STRATEGIES AMONG HOUSE OFFICERS IN A MALAYSIAN HOSPITAL

Muhamad Saiful Bahri Yusoff*, Tan Ying Jie** and Ab Rahman Esa*

***Medical Education Department, **Undergraduate Medical Student,**
***16150* School of Medical Sciences, Universiti Sains Malaysia,**
Kubang Kerian, Kelantan.

Abstract

Objective: **Medical housemanship training has always been regarded as a highly stressful environment to doctors. This article described findings on stress, stressors and coping strategies among house officers in a Malaysian hospital.** ***Methods*****: A cross-sectional study was conducted on house officers in a Malaysian hospital. The 12 items General Health Questionnaire (GHQ-12), General Stressors Questionnaire (GSQ) and Brief COPE inventory were administered to measure perceived stress, sources of stress and coping strategies among house officers respectively. Data was analysed using SPSS version 12.** ***Results*****: Forty two house officers participated in this study. This study found that approximately 31% of the house officers were in distress. The top five stressors were fears of making mistakes that can lead to serious consequences, work overload, working with uncooperative colleagues, doing work that mentally straining and feeling of being underpaid. The most frequent coping strategies used by house officers were religion, acceptance and self-distraction.** ***Conclusion*****: This study found that there was a high percentage of distressed house officers. It also found that major stressors were related to performance pressure. The main coping strategy used by house officer was emotion-focused coping.** ***ASEAN Journal of Psychiatry, Vol.12(1), Jan – June 2011: XX XX.***

Keywords: medical housemanship training, stressors, stress, coping, house officer.

Introduction

Medical housemanship is a period of hospital-based service training of new medical graduates by close supervision of attending physicians. It transforms an academic medical student into a medical practitioner who is fully conversant with the daily requirements, workload and pressures of the doctors' roles. It is considered an important phase in the journey of medical practitioners. They are regarded as first line service providers in a hospital.

Studies have shown that the house officers still feel overburdened with work expectations and this had a negative effect on their health (1-5). In Malaysia, according

to a local newspaper report, a majority of doctors quit from medical career due to being over stressed (6). Hence, they were encouraged by the authorities to undergo stress management programme in order to improve their wellbeing. These facts suggested that the prevalence of work related stress was growing among doctors to an alarming level.

A previous study has shown that high workload, poor communication skills and feeling concern about missed or making wrong or missed diagnoses were major sources of stress to house officers (3). The stressors can lead to various negative consequences on their mental, emotional and physical health such as low self-esteem, job dissatisfaction and poor work performance (1, 3, 4). Sources of stress among house officers generally can be grouped into six groups: nature of job, interpersonal relationships, organizational working environment, work-family conflicts, and profession prospects (7). It is noteworthy that the stressors may vary between institutions. Therefore, understanding the nature of stressors may help authorities find ways to reduce the unwanted consequences of the stressors on the house officers' wellbeing in the future.

Coping strategies can be grouped into two general types; problem-focused and emotion-focused coping (8, 9). Problem-focused coping is aimed at problem solving or doing something to alter the source of stress. Emotion-focused coping is aimed at reducing or managing the emotional distress that is associated with the situation. Although most stressors elicit both types of coping, problem-focused coping tends to predominate when people feel that something constructive can be done, whereas emotion-focused coping tends to predominate when people feel that the stressor is something that must be endured (8, 9). Carver et al. (10) and Carver (11) have proposed 16 dimensions of coping: five dimensions assess conceptually distinct aspects of problem-focused coping (active coping, planning, suppression of competing activities, restraint coping, seeking of instrumental social support); five dimensions assess aspects of what might be viewed as emotion-focused coping (seeking of emotional social support, positive reinterpretation, acceptance, denial, turning to religion); and six dimensions assess coping responses that are less useful (focus on and venting of emotions (venting), behavioral disengagement, mental disengagement (self-distraction), humor, substance use, self-blame). These coping strategies if used effectively might buffer the unwanted impacts of stressful situation on physical, emotional and mental wellbeing (12).

Based on previous studies, prevalence and sources of stress among undergraduate medical students was well established (13, 14), however, there is very limited data for house officers. The purpose of this study is therefore to investigate stress condition among house officers, the factors that cause stress on them and their coping methods. It is hoped that the data obtained from this study will provide useful information for future studies.

Methods

There were a total of 58 house officers available in the year of 2009 for study selection from Universiti Sains Malaysia Hospital which is an accredited teaching hospital for undergraduate and postgraduate medical education.

A cross-sectional study design was used in this preliminary study. Sample size was

determined based on the Roscoe rule of thumb which recommended that 30 subjects were adequate for a preliminary study (15). The study sample size calculated after taking 30 percent dropout rate into consideration was 43 subjects. Non-probability convenient sampling method was applied in selecting study subjects.

The 12-item General Health Questionnaire (GHQ-12) was used to measure participants' perceived stress level, the General Stressor Questionnaire (GSQ) was used to identify sources of stress, and the Brief COPE was used to identify coping strategies. The questionnaires were self-administered. It was administered to the participants during face to face sessions in a hall. All data collection was done by investigators. The participants were told to follow the instructions. The process of filling the questionnaire took about 15 to 25 minutes and the questionnaires were to be returned on the same day.

The GHQ-12 is a well-validated instrument used to measure overall emotional wellbeing and commonly used in studies looking into distress in populations (16-22). It is one of the most widely used measurement tool to measure perceived stress level. Reliability coefficients of the questionnaire have ranged from 0.78 to 0.95 in various studies (17). The items of GHQ-12 represent 12 manifestations of stress and respondents were asked to rate the presence of each of the manifestations in themselves during recent weeks. This is done by choosing from four responses, typically being 'not at all', 'no more than usual', 'rather more than usual' and 'much more than usual'. The scoring method is a binary scoring method where the two least symptomatic answers score 0 and the two most symptomatic answers score 1 – i.e. 0-0-1-1. The GHQ-12 scores range from 0 to 12. The sensitivity and specificity of the GHQ-12 score at cut-off point of 4 were 81.3% and 75.3% respectively with positive predictive value of 62.9% (16, 21, 22). Participants who scored GHQ-12 equal to 4 and above were considered as having significant distress and taken as 'cases' in this study.

The GSQ was designed and developed based on two validated stressor questionnaire designed by Chan et al. (23) and Yusoff et al. (24). The GSQ has 28 items with 7 domains; family, performance pressure, work-family conflicts, bureaucratic constraints, poor relationship with superior, poor relationship with colleagues and poor job prospect. Each of these domains consists of four items. The items of GSQ were rated under 5 categories of responses (causing no stress at all, causing mild stress, causing moderate stress, causing high stress, causing severe stress) to indicate intensity of stress caused by them.

The Brief COPE is a validated inventory and it is used to identify ways in managing stress (10, 11). This inventory consists of 30 items and were rated under 4 categories of responses (I haven't been doing this at all, I've been doing this a little bit, I've been doing this a medium amount, I've been doing this a lot) to indicate how frequent they have been doing what the items say. There are 15 domains covered in this form which are behavioral and mental disengagement, active coping, seeking of instrumental support, seeking of mental support, focus, positive interpretations, planning, humor, acceptance, turning to religion, restraint coping, denial, substance abuse, suppression of competing activities and self blame.

Consent was obtained from the participants. Clearance was obtained from the Human Ethical Committee of the university prior to

the start of the study. The collected data were analysed using Statistical Package for Social Sciences (SPSS) version 12. Data were entered, checked for data entry errors, explored and cleaned. Reliability analysis was applied to test the internal consistency (reliability) of the GSQ; it is considered as having high internal consistency if the Cronbach's alpha value is more than 0.7 (25). Descriptive statistics was applied for analysis of the demographic data, the percentage of distressed students was determined based on GHQ-12 score, stress intensity caused by the stressors, and frequency of coping strategies used by them.

Results

Table 1 shows that a total of 42 house officers responded to this survey, out of whom 25 (59.5%) were female. Majority of participants were Malays, 38 (90.5%), and Muslims, 39 (92.9). Participants graduated from various universities such as UM, UKM and USM. The mean working experience and working duration of participants were 17 months and 10 hours per day respectively as shown in table 1.

Table 1: Profile of participants.

Variable		**House Officers, (n = 42)**
Gender, n (%)	Male	17 (40.5)
	Female	25 (59.5)
Graduated from university, n (%)	UM	4 (9.5)
	UKM	3 (7.1)
	USM	9 (21.4)
	UPM	3 (7.1)
	UMS	1 (2.4)
	UNIMAS	3 (7.1)
	Others	18 (42.9)
Race, n (%)	Malay	38 (90.5)
	Chinese	3 (7.1)
	Indian	1 (2.4)
Religion, n (%)	Islam	39 (92.8)
	Buddha	1 (2.4)
	Christian	1 (2.4)
	Hindu	1 (2.4)
Marriage status, n (%)	Bachelor	25 (459.5)
	Married	16 (38.1)
Working experience in month, mean ± SD (minimum, maximum)		17.46 ± 3.16 (8, 24)
Working duration per day in hour, mean ± SD (minimum, maximum)		10.98 ± 5.71 (7, 36)

(UKM = Universiti Kebangsaan Malaysia; USM = Universiti Sains Malaysia; UPM = Universityi Putra Malaysia; UMS = Universiti Malaysia Sabah, UNIMAS = Universiti Malaysia Sarawak)

Reliability analysis shows that the Cronbach's alpha value for the GSQ was 0.94. Whereas, Cronbach's alpha values for family, poor relationship with superior, bureaucratic constraints, work-family conflicts, poor relationship with colleagues, performance pressure, and poor job prospect domains were 0.70, 0.78, 0.66, 0.69, 0.78, 0.80, and 0.72 respectively. The analysis shows the GSQ is a reliable tool in identifying house officers' stressors. The percentage of distressed house officers was 31% which is in the high side.

Table 2: Rank of stressors according to the stress intensity perceived by house officers.

Rank	Item	Stress intensity perceived by house officers*	
		Mean	Standard Deviation
1	Fear of making mistakes that can lead to serious consequences	2.29	0.92
2	Work overload	2.05	1.01
3	Working with uncooperative colleagues	1.86	0.95
4	My work is mentally straining	1.81	1.11
5	Feeling of being underpaid	1.71	1.23
6	My life is too centered on my work	1.67	1.09
7	Work demands affect my personal/home life	1.67	0.93
8	Having to do work outside of my competence	1.64	0.93
9	Time pressures and deadlines to meet	1.62	1.01
10	Lack of support from superior	1.57	1.02
11	Working with incompetence colleagues	1.52	0.97
12	Insufficient knowledge in educating and building child/children characters	1.52	0.97
13	Advancing a career at the expense of home/personal life	1.50	0.97
14	Unable to make full use of my skills and ability	1.43	0.70
15	Lack of authority to carry out my job duties	1.40	0.89
16	Lack of promotion prospects	1.33	1.09
17	Inadequate preparation for dealing with more difficult aspects of family matters	1.33	1.05

18	Unfair assessment from superior	1.33	0.98
19	Difficulty in maintaining relationship with superior	1.33	0.95
20	Poor relationship with spouse	1.31	1.20
21	Feeling insecure in this job	1.24	1.01
22	Cannot participate in decision making	1.24	0.76
23	Relationship problems with colleagues/ subordinates	1.21	0.95
24	Absence of emotional support from family	1.10	1.14
25	Competition among colleagues	1.07	0.81
26	My beliefs contradict with those of my superior	1.00	0.88
27	Society does not think highly of my profession	0.90	1.03
28	Poor communication and relationship with family members	0.86	0.90

*0.00 – 1.00 = Causing none to mild stress, 1.01 – 2.00 = Causing mild to moderate stress, 2.01 – 3.00 = Causing moderate to high stress, 3.01 – 4.00 = Causing high to severe stress

Table 2 lists the stressors rated by participants. The top five stressors were fears of making mistakes that can lead to serious consequences, work overload, working with uncooperative colleagues, doing work that mentally straining and feeling of being underpaid. Most of the stressors were related to performance pressure as shown in Table 3.

Table 3: Rank of stressor domains according to the stress intensity perceived by house officers.

Stressor domain	Stress intensity perceived by house officers*	
	Mean	Standard Deviation
Performance pressure	1.98	0.91
Poor relationship with colleagues	1.49	0.81
Bureaucratic constraints	1.49	0.68
Work-family conflicts	1.37	0.89
Poor Job prospect	1.32	0.91
Poor relationship with superior	1.27	0.84
Family	1.27	0.78

*0.00 – 1.00 = Causing none to mild stress, 1.01 – 2.00 = Causing mild to moderate stress, 2.01 – 3.00 = Causing moderate to high stress, 3.01 – 4.00 = Causing high to severe stress

Table 4: Rank of coping strategies according to mean score as rated by house officers.

Rank	Coping Strategy	Mean*	Std. Deviation
1	Religion	6.83	1.32
2	Acceptance	5.95	1.56
3	Self-distraction (Mental Disengagement)	5.68	1.33
4	Positive reinterpretation	5.20	1.71
5	Use of emotional support	5.15	1.87
6	Active Coping	5.10	1.18
7	Use of instrumental support	5.02	1.57
8	Planning	4.93	1.81
9	Restraint coping	4.44	1.42
10	Self-blame	4.39	1.63
11	Humour	4.22	1.57
12	Focus on and Venting of emotion	4.00	1.29
13	Behavioural Disengagement	3.39	1.70
14	Denial	3.37	1.58
15	Substance Abuse	2.39	1.12

*minimum score is 0 and maximum score is 8. Mean score interpretations are as below:
2.00=haven't been doing this at all, 2.01-4.00=have been doing this a little bit,
4.01-6.00=have been doing this a medium amount, 6.01-8.00=have been doing this a lot.

Discussion

The percentage of distressed house officers found in this study was relatively higher compared to the figure mentioned by the Malaysian Director-General of Health Tan Sri Dr Mohd Ismail Merican where every month, at least five doctors (20%) were found to be suffering from mental illnesses (26). The percentage is relatively similar to the stress prevalence in undergraduate medical students and postgraduate trainees as reported in previous studies (13, 14). The similarity was perhaps due to similar medical environment that the groups faced. This alarming finding suggested a sense of growing pressure among the doctors. However, since this a preliminary data, further study with larger sample size should be done to confirm this finding.

This present study found that the major stressors among house officers were related to performance pressure. The sources of stress among house officers were relatively similar to the stressors of postgraduate medical trainees as reported by a previous study (14). Perhaps, the possible reason for this is due to the similar intensity of workload they were responsible for. This present study also showed that fears of making mistakes that could lead to serious

consequences, work overload, and working with uncooperative colleagues were the three most stressful events perceived by the house officers followed by other stressors as shown in table 2. It is noteworthy that the stressors rated highly by the house officers were relatively different to those rated highly by undergraduate and postgraduate such as test and examinations, too much content to be learnt, lack of time to do revision, and time pressures as reported by previous studies (13, 14, 26). The dissimilarity is perhaps due to the difference focus of the groups where undergraduate and postgraduate medical trainee focuses are more on academic, whereas for house officers are more on services to patient.

It is interesting to highlight that, compared to undergraduate and postgraduate medical students (13, 14, 21), fears of making mistakes that can lead to serious consequences and working with uncooperative colleagues were perceived as stressful events by the house officers. Obviously, social support from superiors and colleagues influenced the stress level of the house officers (27, 28). Further studies should be conducted to confirm this hypothesis and to explore further the risk factors that contribute to house officers' stress level.

Coping strategies is defined as how a person react or response toward a stressor (29). Effective and appropriate coping strategies may minimize the impact of encountered stressful situations on one's wellbeing (12). This study found that the main coping strategies practiced by the house officers were turning to religion, acceptance and self-distraction; all of the coping strategies are classified under emotion-focused coping where it is usually used when stressors were something that must be endured and cannot be removed (10, 11, 29). Two of the coping strategies (religion and acceptance) were positive coping strategies which have been reported in previous studies as very adaptive and hasten the recovery from distress, however self-distraction is a maladaptive coping strategies which can delay recovery from distress (10, 11, 30). It should be noted that, despite positive coping strategies used dominantly by the interns, the prevalence of distress was still very high. Perhaps their condition could be improved if they can avoid using self-distraction as their coping method and to adopt better coping methods such as positive reinterpretation, active coping and planning. It will be interesting to explore this matter further in the future studies.

This study has several limitations that should be considered in the future studies. The sample size in this pilot study was relatively small and not representing the actual distribution of the study population in term of gender, ethnic groups, years of study and religion. Furthermore, convenient sampling method that was used in this study may lead to sample bias which may compromise accuracy of the result. Even more, the GHQ cut-off point used in this study was based on other population cut-off point which may lead to inaccuracy of the result; either it can be lower or higher. Therefore, findings of this study should be interpreted cautiously. Apart from that, this pilot study has provided a useful data for future studies in such areas.

Conclusion

This study has shown that the prevalence of distressed house officers is high and alarming. The major stressors that were faced by them were related to performance pressure. The main coping strategies of the house officers were emotion-focused coping.

Acknowledgements

Our special thanks to Universiti Sains Malaysia for funding this study through incentive grant 304/JPNP/600004. Our deepest appreciation to all fourth year medical students of 5B group in the 2009/2010 academic session for their great contribution in this study. Our special thanks to hospital director and staff for their direct or indirect contribution in this study. Last but not least, our deepest appreciation to the house officers who participated in this study.

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Corresponding author*: Muhamad Saiful Bahri Yusoff, Lecturer, Medical Education Department, School of Medical Sciences, Universiti Sains Malaysia, 16150 Kota Bharu, Kelantan.*

Email: msaiful@kb.usm.my

Received: 20 February 2010 Accepted: 7 Mac 2010