

THE PREVALENCE OF OCCUPATIONAL STRESS AMONGST GENERAL PRACTITIONER IN AMPANG, SELANGOR

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ABSTRACT

This cross-sectional study was conducted among general practitioners in Ampang, Selangor between November 1998 and March 1999. Sample population was 70 general practitioners from 30 clinics which were chosen. The objective of this study was to determine the prevalence of occupational stress among general practitioners. This study applied self-administered questionnaires, which were structured to consist of questions on socio-demography, occupational history and symptoms of stress. Symptoms of stress were based on Personal Stress Inventory, which uses 52 questions to determine stress levels. The response rate was 64.3% and the prevalence of occupational stress was 32.5%. The main stress symptoms among stressed general practitioners were symptoms of tension (92.9%) and gastrointestinal symptoms (86.7%). It can be concluded that general practitioners are experiencing occupational stress and this could be anticipated from the frequency of the symptoms being present. Steps to recognize symptoms of stress should be taken by both the management and the general practitioners in order to enable preventive measures to be taken to ameliorate their working environment.

Keywords: *Occupational stress, general practitioner, prevalence of stress*

ABSTRAK

Kajian berbentuk hirisan lintang ini telah dilakukan di kalangan pengamal perubatan swasta di Ampang, Selangor di antara bulan November 1998 hingga Mac 1999. Tujuan kajian ini adalah untuk mengetahui prevalen stres pekerjaan di kalangan pengamal perubatan swasta. Jumlah sampel kajian adalah seramai 70 orang pengamal perubatan dari 30 buah klinik swasta yang dipilih. Kajian ini menggunakan borang soal-selidik jawab sendiri yang mengundungi soalan berkaitan dengan faktor sosio-demografi, sejarah pekerjaan dan juga gejala-gejala stres. soalan dan skala jawapan bagi gejala-gejala stres ini diambil daripada Inventori Stres Peribadi. Kadar respon adalah 64.3% dan prevalen stres pekerjaan di kalangan pengamal perubatan swasta adalah 32.5%. Gejala stres yang utama di kalangan pengamal perubatan swasta adalah gejala ketegangan (92.9%) dan gejala sistem gastro-intestinal (86.7%). Kesimpulan boleh dibuat bahawa golongan pengamal perubatan swasta juga menghadapi stres pekerjaan dan ini boleh diandaikan dari kekerapan mereka mengalami gejala-gejala stres. Usaha perlu dibuat oleh pihak pengurusan serta pengamal perubatan swasta sendiri untuk mengenalpasti gejala tersebut serta mengambil langkah-langkah memperbaiki keadaan persekitaran kerja mereka.

Kata kunci: *Stres pekerjaan, pengamal perubatan swasta, prevalen stres*

INTRODUCTION

Increasingly, stress is a feature of society as a whole, and general practitioners' ability to deal with stress in themselves generally influences their ability to help others to do the same. Stress is an ambiguous word that is used on different occasions to denote positive or negative strain in a physical or emotional context.

A 1995 study (Hayter *et al* 1996) found that general practitioner with high stress levels does not necessarily have low morale, and that there is a close positive correlation between levels of job satisfaction and morale. Other studies have also highlighted the protective effect of job satisfaction against stress (Ramirez *et al* 1996).

Stress is defined as the "physical, emotional and mental strain resulting from the mismatch between an individual and his/her environment", which results from a "three way relationship between demands on a person, that person's feelings about those demands and their ability to cope with those demands" (Bynoe

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1994). It is typically characterized by high levels of arousal and distress, and often by feelings of not coping. Stress is most likely to occur in situations where: demands are high; the amount of control an individual has is low; and, there is limited support or help available for the individual. Hence occupational stress is defined as the result of conflicting internal and external pressures that cause strain and alter the effectiveness of individuals (Munro *et al.* 1998). In the late 1980s, Cooper *et al.* (1989) found that the four most important predictors of job stress were: work-home interface, demands of the job, patients' expectations and practice administration. A rapidly changing work situation with associated role conflict or ambiguity can also be a major cause of occupational stress.

Up to the year 1996, there were 10,196 medical practitioners with annual practice certificate received from Malaysia Medical Council. Out of these, 5,582 were general practitioners. The ratio of medical practitioner to population in Malaysia in 1996 was reported to be 1:2076. Realizing this, stress and other morale issues amongst general practitioners should be a current concern since matters in difficulties with retaining the workforce needed to meet the targets of primary care are on the rise.

Stress in general practice is a dynamic process that changes in quantity and quality in response to internal and external factors. It has been suggested that the nature of the profession facilitates an inflexible response to pressure due to the culture of personal responsibility rather than delegation, and also, the need to provide best care for each patient rather than making trade-offs in a resource constrained environment (Edwards 2002). Anxiety, depression, dependence and burnout, have often been reported together with stress in the literature as they share common causative factors and often co-exist. Other effects include problems in personal relationships and even the abuse of drugs and alcohols among doctors (National Safety Council of Australia's Australian Safety 2000). Hence, it is the utmost importance that symptoms of stress be recognized and assessed to enable initiation of stress intervention to take place. The objective of this study was to determine the prevalence of occupational stress and factors associated with it amongst general practitioners.

METHODOLOGY

This study was done in Ampang, Selangor where the total population had amounted to a number of 2,909,700 people. Target population was general practitioners of private clinics in Kampung Pandan. Target sample was 70 general practitioners from 30 private clinics that were selected non-randomly due to logistic factor and its short distance from each other. All chosen clinics were operated individually or by a group practice, and opened between 12 and 14 hours per day.

This cross-sectional study was done between November 1998 and February 1999. A self-administrated questionnaire were utilized as a tool for data collection and the structured questionnaire were distributed by post or by hand and were followed by 1 telephone call to encourage participation. The questionnaire comprised of items enquiring on socio-demography characteristics, occupational history and symptoms of stress. Items on sources of personal stress which were inquired were based on Personal Stress Inventory by Dennis T. Jaffe (O'Donnel & Ainsworth 1984). Symptoms of stress were measured according to total scores from 52 items of 6 physiological and 5 psychological subscales. Symptoms were given anchors of a four-point Likert scale intensity where '0' is for 'never' and '3' is for 'almost everyday'. A total score of 40 were given as a cut-off point of stress status 40.

Data was analyzed using 'Statistical Product and Service Solution' (SPSS) with univariate and bivariate methods.

RESULTS

The response rate for this study was 64.3% (N=45). The respondents from individual practice constitute a percentage of 52.9% (N=19) while from group practice was 47.1%. General practitioners who were employee represented 85.3% (N=29) while 14.7% (N=5) was employer. Ages ranged between 26 and 57 years with the average age of 35.9% 5.5 years (mean±standard deviation). Most of general practitioners were male (66.7%) and predominantly being of Malay race (64.4%). A large number of them were married (80.0%) and had 2 to 5 children (46.7%). The average monthly income was RM 6,140±RM 2,521 (table 1).

Table 1: Socio-demographic characteristic of general practitioners

Variables (N)	Frequency	Percentages (%)
Age (years) (45)		
25 –30	5	11.1
31 – 35	17	37.8
36 – 40	14	31.1
> 40	9	20.0
Gender (45)		
Male	30	66.7
Female	15	33.3
Race (45)		
Malay	29	64.4
Chinese	11	24.4
Others	5	11.1
Marital status (45)		
Married	36	80.0
Single	8	17.8
Divorced	1	3.2
Number of children (45)		
< 2	20	44.5
2 to 5	21	46.7
> 5	4	8.9
Monthly income (RM) (32)		
3000 – 4999	5	15.6
5000 – 6999	18	56.3
7000 – 8999	5	15.6
> 9000	4	12.5

The prevalence of stress among general practitioners was 32.5% (14 respondents). There were more general practitioners from individual practice with stress (44.4%) than form group

practice (33.3%). More employees were stress (44.9%) than employers (33.3%). However, these differences were not statistically significant ($p>0.05$) (table 2).

Table 2: Distribution of occupational characteristics among general practitioners according to stress status

Occupational Characteristics	N	Frequency (%)		Statistical test value	p value
		Stress	Not stress		
Type of Organization (N=33)					
Individual practice	18	8 (44.4)	10 (55.6)	0.42	> 0.05
Group practice	15	5 (33.3)	10 (66.7)		
Status in Organization (N=32)					
Partnership / Self owned	3	1 (33.3)	2 (66.7)	**	> 0.05
Employer	29	13 (44.9)	16 (55.1)		

* Statistically significant when $p<0.05$

Statistical test – Chi Square Test / Fisher's Exact Test**

In term of socio-demographic factors, the stress group of general practitioners commonly was of 31 to 35 years of age (47.0%), male (35.7%), Malays (29.6%) single or divorced (55.6%) and had the monthly income which ranges between

RM 3000 to RM 6999 (45.5%). However the differences among the stress and no stress group was not statistically significant ($p>0.05$) (table 3).

Table 3: Distribution of socio-demographic characteristics among general practitioners according to stress status

Variables (N)	Frequency	Frequency (%)`		Statistical test value	p value
		Stress	Not stress		
Age (years) (45)				4.60	> 0.05
25 3 0	5	2 (50.0)	2 (50.0)		
31 – 35	17	8 (47.0)	9 (53.0)		
36 – 40	14	3 (23.0)	10 (77.0)		
> 40	9	1 (11.1)	8 (88.9)		
Gender (43)				**	> 0.05
Male	28	10 (35.7)	18 (64.3)		
Female	15	4 (26.6)	11 (73.4)		
Race (43)				0.28	> 0.05
Malay	27	8 (29.6)	19 (70.4)		
Others	16	16 (37.5)	10 (62.5)		
Marital status (45)				**	> 0.05
Married	34	9 (26.4)	25 (73.6)		
Single/Divorced	9	5 (55.6)	4 (44.4)		
Monthly income (32) (RM)				**	> 0.05
3000 – 6999	22	10 (45.5)	12 (54.5)		
7000 >	10	3 (30.0)	7 (70.0)		

* Statistically significant when $p<0.05$
 Statistical test – Chi Square Test / Fisher's Exact Test**

All symptoms of stress were statistically significant ($p<0.05$) except for symptoms of diet subscale ($p>0.05$). Symptoms of tension had been experienced by 92.9% of stress group while

symptoms gastrointestinal problems were encountered by 86.7% of them (table 4).

Table 4: Distribution of stress symptom among general practitioners according to stress status (N=43)

Variables (N)	Stress (%)		Not stress (%)		p value
	Symptom present	Symptom absent	Symptom present	Symptom absent	
Musculoskeletal system	10 (71.4)	4 (28.6)	1 (3.4)	28 (96.6)	< 0.05
Gastrointestinal system	12 (86.7)	2 (14.3)	2 (6.9)	27 (93.1)	< 0.05
Other physical system	11 (78.6)	3 (21.4)	2 (6.9)	27 (93.1)	< 0.05
Depression	11 (78.6)	3 (21.4)	2 (6.9)	27 (93.1)	< 0.05
Tension	13 (92.9)	1 (7.1)	1 (3.4)	28 (96.6)	< 0.05

Energy level	9 (64.3)	5 (35.7)	0	29 (100.0)	
Sleep	6 (42.9)	8 (57.1)	1 (3.4)	28 (96.6)	< 0.05
Attention	8 (57.1)	6 (42.9)	1 (3.4)	28 (96.6)	< 0.05
Diet	2 (14.3)	12 (85.7)	0	29 (100.0)	
Activity	7 (50.0)	7 (50.0)	1 (3.4)	28 (96.6)	< 0.05
Relationship	5 (35.7)	9 (64.3)	0	29 (100.0)	

* Statistically significant when $p < 0.05$
 Statistical test – Fisher's Exact Test

There was no significant differences ($p > 0.05$) in relation to socio-demographic and working characteristics among general practitioners whom

are stressed and had tension symptoms relative to those who does not have tension symptom (table 5).

Table 5: Distribution of tension symptom among general practitioners according to socio-demographic and occupational characteristics

Variables (N)	Tension symptom (%)`		Statistical test value	p value
	Present	Absent		
Age (years) (43)			3.03	> 0.05
25 –30	2 (50.0)	2 (50.0)		
31 – 35	7 (41.1)	10 (58.9)		
36 – 40	4 (30.7)	9 (69.3)		
> 40	1 (11.1)	8 (88.9)		
Gender (43)			**	> 0.05
Male	10 (35.7)	18 (64.3)		
Female	4 (26.6)	11 (73.4)		
Race (43)			0.28	> 0.05
Malay	8 (29.6)	19 (70.4)		
Others	5 (31.3)	11 (68.7)		
Marital status (43)			**	> 0.05
Married	10 (29.4)	24 (70.6)		
Single/Divorced	4 (44.4)	5 (55.6)		
Monthly income (32) (RM)			**	> 0.05
3000 – 6999	10 (45.5)	12 (54.5)		
7000 >	2 (20.0)	8 (80.0)		
Type of Organization (33)			0.93	> 0.05
Individuai practice	9 (50.0)	9 (50.0)		
Group practice	5 (33.3)	10 (66.7)		
Status in Organization (32)			**	> 0.05
Partnership/Self owned	1 (25.0)	3 (75.0)		
Employer	13 (44.8)	16 (55.2)		

* Statistically significant when $p < 0.05$
 Statistical test – Chi Square Test / Fisher's Exact Test**

There was also no significant difference ($p > 0.05$) among stress general practitioners who had gastrointestinal symptom and who did not have

gastrointestinal symptoms in relation to socio-demographic and working characteristics (table 6).

Table 6: Distribution of gastrointestinal symptom among general practitioners according to socio-demographic and occupational characteristics

Variables (N)	Tension symptom (%)		Statistical test value	p value
	Present	Absent		
Age (years) (43)			3.03	> 0.05
25 -30	2 (50.0)	2 (50.0)		
31 - 35	7 (41.1)	10 (58.9)		
36 - 40	4 (30.7)	9 (69.3)		
> 40	1 (11.1)	8 (88.9)		
Gender (43)			**	> 0.05
Male	10 (35.7)	18 (64.3)		
Female	4 (26.6)	11 (73.4)		
Race (43)			1.45	> 0.05
Malay	7 (25.9)	20 (71.4)		
Others	7 (43.7)	9 (56.3)		
Marital status (43)			**	> 0.05
Married	9 (26.4)	25 (73.6)		
Single/Divorced	5 (55.5)	4 (44.5)		
Monthly income (32) (RM)			**	> 0.05
3000 - 6999	10 (45.5)	12 (54.5)		
7000 >	2 (20.0)	8 (80.0)		
Type of Organization (33)			0.93	> 0.05
Individual practice	9 (50.0)	9 (50.0)		
Group practice	5 (33.3)	10 (66.7)		
Status in Organization (33)			**	> 0.05
Partnership/Self owned	1 (25.0)	3 (75.0)		
Employer	13 (44.8)	16 (55.2)		

* Statistically significant when $p < 0.05$
 Statistical test - Chi Square Test / Fisher's Exact Test**

DISCUSSION

Prevalence of occupational stress among general practitioners in this study was 32.5%. In a study by Firth-Cozens (2003), the proportion of doctors and other health professionals in the United Kingdom showing above threshold levels of stress has stayed remarkably constant at around 28%, compared with around 18% in the general working population and this prevalence does not differ much from the findings in this study. Another study which was conducted in 1998, where the GHQ-12 self-report questionnaire was used to measure psychological symptoms in general practitioners, reported that 52% of respondents scored above the cut-off usually used to detect probable cases of psychiatric morbidity in general population surveys (Appleton 1998).

It was found that all the subscales were valid in determining stress level where the difference between stress and not stress group was significant ($p < 0.05$) except for diet, energy level and relationship subscales. Two of the most common symptoms to determine stress level were tension subscale (92.9%) and gastrointestinal symptoms (86.7%). Even so, it should be noted that experience of stress does not necessarily

result in pathological changes or damage because stress may be contained within the body's normal homeostatic limits. People vary as to the length of time and magnitude of stress needed to cause ill health. Many symptoms of stress are uncomfortable and reduce the quality of life without causing irreversible damage to the individual (Chambers & Davies 1999).

The findings in this study did not exhibit the presence of a relationship between socio-demographic and occupational characteristics with stress. Compared to other study that focused on general practitioners (Dua 1997), it was found that high occupational stress in doctors was associated with high general stress and poor general health. Results reported in this paper also showed that male doctors were more stressed than female doctors, general practitioners working on a full-time basis were more stressed than those working on a part-time basis, general practitioners who were also working as visiting medical officers were more stressed than those who did not work in this capacity, and younger general practitioners were more stressed than older general practitioners.

This study had a few limitations that need to be highlighted. The first limitation was the response rate (64.3%). Several steps should

be taken to increase the response rate. Effort should be made to follow up people who do not participate in this study and follow up should be done more than once. The second limitation was selection bias due to the fact that this study uses non-randomized sample selection as sampling method. This study had chosen sample population based on logistic and convenience. Therefore the results obtained could not be generalized as prevalence of occupational stress among general practitioners in Klang Valley, Malaysia. Hence, further studies regarding occupational stress among general practitioners that considers the limitations highlighted are recommended.

Results from this study is hoped to be an initial step in the risk assessment process of occupational stress among general practitioners in Ampang, Selangor that will hopefully link to the establishment of intervention measures in order to reduce stress in general practice where it could be pitched at individual and organizational levels such as: changes in lifestyle, support from others or improved practice management (Thompson 2001).

CONCLUSION

The prevalence of stress among general practitioner in Ampang, district of Selangor was 32.5% and two most common symptoms of stress were symptoms of tension and symptoms of gastrointestinal system. The prevalence result could not describe the prevalence of occupational stress among general practitioners in Klang Valley because of inadequate study design. Therefore further studies regarding occupational stress among general practitioners need to consider the limitations highlighted in order to be able to generalized findings to a wider scope of general practitioners in Malaysia.

REFERENCES

- Appleton, K., House, A. & Dowell, A. 1998. A survey of job satisfaction, sources of stress and psychological symptoms among general practitioners in Leeds. *Br J Gen Pract* 48: 1059-63.
- Bynoe, G. 1994. Stress in women doctors. *Br J Hosp Med* 51(6): 267-268.
- Chambers, R. & Davies, M. 1999. *What stress in primary care!* London: Royal College of General Practitioners.
- Cooper, C.L., Rout, U. & Faragher, B. 1989. Mental health, job satisfaction, and job stress among general practitioners. *Br Med J* 298: 366-370.
- Dua, J.K. 1997. Level of occupational stress in male and female rural general practitioners. *Aust J Rural Health* 5(2): 97-102.
- Edwards, N., Kornacki, M.J. & Silversin, J. 2002. Unhappy doctors: what are the causes and what can be done? *Br Med J* 324: 835-838.
- Firth-Cozens, J. 2003. Doctors, their wellbeing, and their stress. *Br Med J* 326: 670-670.
- Hayter, P., Peckham, S., Robinson, R. 1996. *Morale in general practice*. University of Southampton: Institute for Health Policy Studies.
- Munro, L., Rodwell, J. & Harding, L. 1998. Assessing occupational stress in psychiatric nurses using the full job strain model: The value of social support to nurses. *Int J Nurs Stud* 35(6): 339-345.
- National Safety Council of Australia's Australian Safety (NSCAAS). 2000. OHS and medical professionals. (On line) <http://www.aboutsafety.com> (16 July 2004)
- O'Donnell, M.P., Jaffe, D.T. & Zindler-Wernet, P. 1984. Stress assessment. In O'Donnell, M.P. & Ainsworth, T.H. (eds). *Health promotion in the work place*, 185-220. New York: John Wiley.
- Ramirez, A.J., Graham, J., Richards, M.A., Cull, A. & Gregory, W.M. 1996. Mental health of hospital consultants: the effects of stress and satisfaction at work. *Lancet* 347: 724-728.
- Thompson, W.T., Cupples, M.E., Sibbett, C.H., Skan, D.I. & Bradley, T. 2001. Challenge of culture, conscience, and contract to general practitioners' care of their own health: qualitative study. *Br Med J* 323: 728-731.