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## Prevalence of Psychological Stress among Undergraduate Students Attending a Health Programme in a Malaysian University

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### ABSTRACT

Psychological stress among undergraduate students is associated with poor academic results, physical ill-health and psychiatric disorders. The objectives of the study were to determine the prevalence of psychological stress and its associated factors among undergraduate students attending a health programme in a local university. This is a cross-sectional study among undergraduate students attending a health programme in a local university. The 12-item General Health Questionnaire (GHQ-12) was used to determine the presence of psychological stress at a cut-off point of 4 and above. Analysis was conducted to determine any association between gender, ethnicity, year of study in the university, recent health-seeking contact with a doctor, and psychological stress among the participants. The prevalence of psychological stress among undergraduate students attending a health program in a Malaysian University was 49.3%. There was no significant association with any of the socio-demographic factors studied ( $p>0.05$ ). The prevalence of psychological stress in this study was significantly high, and irrespective of gender, ethnicity, year of study in the university, and recent health-seeking contact with a doctor. Hence, the findings of this study show that it may be a useful strategy to integrate such health programs regularly in activities of colleges and universities, with the aim of promoting mental health and wellness among the students.

*Keywords:* Anxiety, depression, general health questionnaire (GHQ), mental health, psychological stress, undergraduates, university

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### INTRODUCTION

Psychological stress among undergraduate students is associated with poor academic performance (Cookson, 2006; Kudachi *et al.*, 2008; Vaez & Laflamme, 2008), depression, anxiety, alcohol abuse, and suicide (Compton *et al.*, 2008; Mancevska *et al.*, 2008; Millan *et al.*, 1990).

The prevalence of psychological stress among undergraduate students is significantly high. In a Canadian study using the 12-item General Health Questionnaire (GHQ-12) among 7800 undergraduates from 17 universities (Adlaf *et al.*, 2001), 30% of the students reported elevated psychological stress. A similar study in 1,750 first year undergraduates in Norway using the GHQ-12 showed that the level of psychological stress was 21% (Nerdrum *et al.*, 2006). As for China, 58% of 2007 students in 17 universities experienced at least mild psychological stress (Zhang *et al.*, 2006). Local studies on psychological stress among undergraduates were mainly conducted among the medical students. The local prevalence of psychological stress among non-medical undergraduate students using GHQ-12 was 52.9% (Nor Shereen & Rozumah, 2010) and 34.4% (Noradilah *et al.*, 2009). As for local studies using GHQ-12 among medical students, the prevalence of psychological stress was 41.9% (Sherina *et al.*, 2003), 29.6% (Yusoff *et al.*, 2010), and 46.2% (Zaid, Chan, & Ho, 2007).

Psychological stress in undergraduate students is associated with several factors. A Swedish study showed that females (16.1%) had significantly higher level of psychological stress than males (8.1%) (Dahlin *et al.*, 2005). In local studies, however, gender and ethnic were not found to be associated with psychological stress (see Johari & Hassim, 2009; Nor Shereen & Rozumah, 2010; Sherina *et al.*, 2003; Yusoff *et al.*, 2010; Zaid *et al.*, 2007). Only one study indicated that psychological stress was the highest among the Chinese, followed by the Malays and Indians (Noradilah *et al.*, 2009).

With regards to year of study in the university, the highest prevalence of psychological stress was found among the 2nd (36.5%) and 4th year (35.3%) medical students (Yusoff *et al.*, 2010). In a study by Zaid *et al.* (2007), psychological stress was significantly higher among the 1st (50%) and final year (62.7%) medical students. However, three other local studies; two on medical students (Sherina *et al.*, 2003; Johari & Hassim, 2009), and another one on university students in general (Noradilah *et al.*, 2009) showed that the year of study in the university was not associated with psychological stress.

The objectives of this study were to: 1) determine the prevalence of psychological stress among undergraduate students attending a health programme in a university, and 2) determine whether there was an association between gender, ethnic, year of study in the university, recent health-seeking contact with a doctor, and psychological stress among the undergraduate students. This study is important to determine whether implementing mental health screening during university health programmes encourages students' participation, and facilitates early detection and management of mental health problems.

## **MATERIALS AND METHODS**

Participants consisted of attendees of the Youthful Health Fair programme that was held for three days in March, 2011, at a public university in Malaysia. The Youthful Health Programme, which was aimed to increase awareness and promote healthy lifestyle among university students, was the first of its kind at the university. It was held in the main hall of the university. A mental health screening booth was set up as a part of the programme to provide services that included mental health poster exhibition, video presentations, screening, and forum.

This cross sectional survey was conducted amongst all the participants who had attended the mental health screening booth that was carried out during this programme. Purposive sampling of participants was carried out in the survey. The screening was conducted by one psychiatrist, two trainee clinical psychologists, and six psychiatric nurses from the Department of Psychiatry. Data were collected using self-administered questionnaire which consisted of Part A (participants' socio-demographic data: gender, age, ethnicity, year of study in university and recent health-seeking contact with a doctor) and Part B (the 12-item General Health Questionnaire/GHQ-12).

The GHQ-12 is a well-validated instrument commonly used for screening psychiatric symptoms (Goldberg & Williams, 1988). It is also widely used by researchers for measuring mental health status especially in detection of 'caseness' of significant psychological distress. The questionnaires consist of 12 items and the participants respond to the items by choosing from four responses (from least symptoms to most symptoms). The '0-0-1-1' scoring method was used in this study; higher scores indicate more psychological distress. A cut-off score of four and above indicates significant psychological stress. The cut-off score is based on a local study by Yusoff (2010) on the Malay version of GHQ-12 among 150 medical students in Universiti Sains Malaysia (USM). The sensitivity and specificity of the GHQ-12 at the cut-off score of four were 81% and 75% respectively, while Cronbach's alpha of the scale was 0.85.

The information sheet was given to the participants and a written consent was obtained prior to the administration of the questionnaire. Each questionnaire was scored and interpreted immediately. The staff were trained by the attending psychiatrist prior to conducting the survey. All the scores were double checked by the attending psychiatrist to ensure their accuracy. The participants with high scores, (i.e., four and above) were referred immediately to the attending psychiatrist at the booth and if necessary, subsequently referred for follow-up with the mental health professionals in UPM.

IBM Statistical Package for Social Science (SPSS), Version 19.0, was used to analyse the data. The presence of psychological stress was determined based on a cut-off score of four and above in the GHQ-12 (scoring method of 0-0-1-1) (Yusoff, 2010). The Chi-square test was used to analyse the association between each factor and psychological stress. A multivariate logistic regression analysis was run to determine any variables that would predict GHQ-12 scores. A p-value of less than 0.05 was considered to be significant.

## RESULTS

Out of 324 participants who had completed GHQ-12, 306 fulfilled the selection criteria and were included in the analysis of this study. A total of 18 questionnaires were excluded; three due to missing data, eight were postgraduate students, and seven were non-students. The age of the participants ranged between 18 to 27 years with a mean of 21.67 (SD=1.72).

Table 1 shows the profile of participants in this study. Majority (85%) were female and of Malay ethnicity (65.7%). Almost half (45.8%) of the participants were freshmen (first-year students). In terms of health seeking behaviour, 5.6% of the participants consulted a doctor within the past two weeks due to medical reasons.

Table 1: Profile of the participants (N = 306)

Profile of respondents	N	%
Age (M ± SD)	21.67 ± 1.72	
Gender		
Female	260	85.0
Male	46	15.0
Ethnicity		
Malay	201	65.7
Chinese	92	30.1
Indian	7	2.3
Others	6	2.0
Year of study		
First	140	45.8
Second	78	25.5
Third	57	18.6
Fourth	28	9.2
Fifth	3	1.0
Recent health-seeking contact with a doctor		
Yes	17	5.6
No	289	94.4
Total	306	100.0

Table 2: Factors associated with Psychological Stress among participants (N = 306)

Associated factors	Psychological Stress (%)	No Psychological Stress (%)	p-value
Age (M ± SD)	21.57 ± 1.68	21.76 ± 1.76	0.33
Gender			
Female	131 (50.4)	129 (49.6)	0.39
Male	20 (43.5)	26 (56.5)	
Ethnicity			
Malays	97 (48.3)	104 (51.7)	0.79
Chinese	47 (51.1)	45 (48.9)	
Indians	3 (42.9)	4 (57.1)	
Others	4 (66.7)	2 (33.3)	
Year of study			
First	62 (44.3)	78 (55.7)	0.12
Second	48 (61.5)	30 (38.5)	
Third	25 (43.9)	32 (56.1)	
Fourth	15 (53.6)	13 (46.4)	
Fifth	1 (33.3)	2 (66.7)	
Recent health-seeking contact with a doctor			
Yes	10 (58.8)	7 (41.2)	0.42
No	141 (48.8)	148 (51.2)	

### *Prevalence of Psychological Stress*

The prevalence of psychological stress was 49.3% (N = 151/306). There was no significant association between psychological stress and any of the factors studied (Table 2). Multivariate logistic regression confirmed that none of the variables was a significant predictor of psychological stress as indicated by categorized GHQ-12 scores ( $p > 0.05$ )

## **DISCUSSION**

The prevalence of psychological stress in this study was 49.3%. This finding is more or less comparable to several local (Nor Shereen & Rozumah, 2010; Noradilah *et al.*, 2009; Sherina *et al.*, 2003; Zaid *et al.*, 2007), and international (Adlaf *et al.*, 2001; Nerdrum *et al.*, 2006; Zhang *et al.*, 2006) studies carried out among university students. However, this finding is much higher than the prevalence in the general adult Malaysian population as reported in the 2nd National Health & Morbidity Survey (GHQ-12, 10.7%) and 3rd National Health & Morbidity Survey (GHQ-28, 11.2%).

The high prevalence of psychological stress in this study was irrespective of gender and ethnicity. This finding is consistent with several local studies (Johari & Hassim, 2009; Nor Shereen & Rozumah, 2010; Sherina *et al.*, 2003; Yusoff *et al.*, 2010; Zaid *et al.*, 2007). Nevertheless, Noradilah *et al.* (2009) found that psychological stress was not associated with gender in their study, but it was associated with ethnicity instead (Noradilah *et al.*, 2009). The pattern of results in terms of gender association is different when compared to local studies on depression (instead of general psychological distress) among medical students; prevalence of depression is significantly higher among female medical students (Sherina & Kanesan, 2003; Yusoff, Rahim & Yaacob, 2011). This is not surprising as the prevalence of depression has generally been found to be higher among females in the community and general medical practice (Sherina & Kanesan, 2003).

The high prevalence of psychological stress was not significantly associated with the year of study in the university. Despite that, a descriptive statistic showed that the prevalence of psychological stress was higher among the year two (61.5%) and four (53.6%) students. This is similar to the study carried out among medical students by Yusoff *et al.* (2009), with the highest among year two, followed by year four students. However, it is dissimilar to the studies among medical students by Sherina *et al.* (2003), with higher percentage in year one and four students, as well as Zaid *et al.* (2007), who found higher percentage among year five and one students. The discrepancy is likely due to the difference in time of assessment (typically higher during examination periods) and studies curriculum between medical and non-medical students. It is interesting to note that selection criteria for university admission can have an impact on mental health. In the study by Yusoff *et al.* (2012), medical students who were in the same year of study (i.e., year one), but accepted into the medical school through different selection criteria (academic results versus academic results plus personal qualities) had different levels of psychological stress during an examination period. Those who were accepted into the medical school based on good academic results plus personal qualities had significantly less psychological stress during the examination period.

The strength of this study is that it was conducted during a university health programme, which received good response from the students. Consultation for mental health problems has always been associated with stigma in this country. It is encouraging that this study has shown that seeking help for mental health in a university health programme setting is acceptable to the students. Almost half (49.3%) of the students who had participated in the study had significant psychological stress. In other words, the programme was well attended and accepted by those with mental health needs. Therefore, this could be a good strategy for early detection, diagnosis and psychological interventions for mental health problems among university students.

As for limitation, this study was conducted involving only one university programme. In view of the high prevalence of psychological stress, it is recommended that more of such mental health screening and education be conducted together with other university programmes held throughout the year. Identifying risk factors such as childhood adversities, life-events, physical illness, substance abuse, and coping styles would help to further understand stress among the students (Maniam, Sidi, & Razali, 2013). It will be helpful if the university could offer courses or programmes related to stress reduction and wellness for the students to cope with psychological stress. This would definitely help the University to achieve its mission to produce high quality graduates who can contribute effectively to the community and nation building.

## CONCLUSION

The prevalence of psychological stress among undergraduate students attending a health programme in a Malaysian University was 49.3%. This is significantly high and irrespective of gender, ethnicity, year of study in the university, and recent health-seeking contact with a doctor. Seeking help for mental health in a university health program setting was acceptable to the students. Hence, it is a useful strategy to integrate such a health programme regularly in the university's activities for promoting mental health and wellness among the students.

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