STRESS AND ITS IMPACT ON LEARNING:

A SNAPSHOT OF FIRST YEAR HEALTH SCIENCES STUDENTS IN THE LI KA SHING FACULTY OF MEDICINE

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INTRODUCTION

From Hong Kong's traditionally intense educational culture, the Li Ka Shing Faculty of Medicine attracts high-achieving students in five health sciences programmes: medicine, nursing, pharmacy, Chinese Medicine and biomedical sciences. Engaged in a demanding curriculum and adjusting to the transition to university learning, the level of student stress can be high.[1,2] In addition to its effect on wellbeing, stress can affect academic performance but its effect on learning can be mitigated by good intrinsic motivation and self-efficacy.[3] This study aims to investigate the level of stress among first year undergraduate students in the LKS Faculty of Medicine, and to explore how stress may affect learning motivation and grades.

METHODS

In academic year 2014-2015, first year students in all programmes of the LKS Faculty of Medicine were invited to join the study and completed a questionnaire at the end of a regular teaching session near the end of the academic year. The survey consisted of the Perceived Stress Scale (PSS) (possible score range: 0 – 40) and the adapted version of Motivated Strategies for Learning Questionnaire (MSLQ) (3 subscales including Self-efficacy, Intrinsic value, Test anxiety; possible score range: 1 – 5) to measure students perceived stress and motivation to learn respectively. Background and demographic information as well as academic results were also collected. Data were analysed using descriptive statistics, t-tests and ANOVAs, and multivariate regression analysis to find out (1) level of stress collectively and in each programme; (2) demographic factors related to stress; and (3) relationship of stress with motivation to learn and academic achievement.

RESULTS

The overall response rate was 89.5% (n=359). Table 1 shows the demographic distribution and the comparisons of scale scores between demographic characteristics. In general, first year healthcare professions students had higher perceived stress than the general Hong Kong population[4] (Figure 1). Biomedical sciences students appeared to be the most stressed though this was not statistically significant. After controlling for other factors, students who regarded themselves to be below average academically were more likely to have higher stress (Table 2). Age, gender and programme of study were not significant factors. Perceived stress was positively correlated with test anxiety but there was no association with academic achievement (Table 3). However, lower self efficacy (confidence in ability to succeed) correlated with poorer academic results.

Figure 1. Perceived stress levels among students

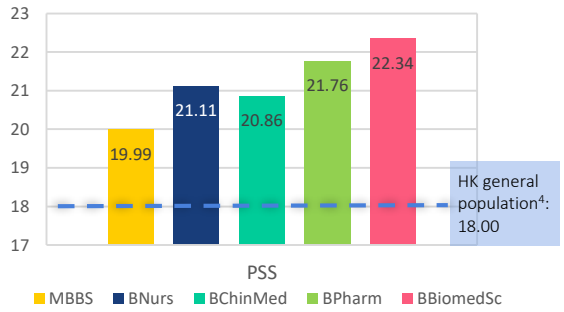

Table 1. PSS score by demographic characteristics

	n	PSS
Age (mean)	18.8	20.72
Gender		
Male	148	20.56
Female	195	20.83
Perceived standing		
Above mean	227	**20.21**
Below mean	114	**21.66**
Exam score		
Above mean	185	20.42
Below mean	154	20.99

***Bolded** values indicate significant differences by independent t-test at 0.05 level*

Table 2. Association between demographic and PSS by multivariate logistic regression

	PSS	
	Adjusted OR	Sig.
Age	0.95	0.637
Female (vs. male)	1.17	0.510
Perceived standing below mean (vs. above mean)	**1.79**	**0.024**
Exam below mean (vs. above mean)	1.01	0.964
Programme of study (vs. MBBS)		
BNurs	1.41	0.301
BChinMed	1.87	0.225
BPharm	1.44	0.415
BBiomedSc	2.05	0.100

***Bolded** values indicate significant association at 0.05 level*

Table 3. Associations between exam score, PSS and MSLQ by Spearman's correlations

	Exam*	Perceived stress
Perceived stress	-0.089	--
MSLQ		
Self-efficacy	**-0.210**	-0.091
Intrinsic value	0.075	-0.063
Test anxiety	-0.042	**0.411**

***Bolded** values indicate significant correlations at 0.05 level*

*Exam scores were categorized in ranks (top 25%, top 26-50% and below mean) to allow fair analysis among different programmes

0.20-0.39 = weak correlation; 0.40-0.59 = moderate correlation; ≥0.60 = strong correlation

CONCLUSION

While stress did not appear to negatively affect the learning or academic outcome at this stage, the level of stress among our students is concerning. To improve students' academic performance, ways to boost self-efficacy, such as assigning appropriately challenging tasks, teaching and learning strategies, and giving constructive feedback[5] may be helpful. Future studies to monitor of the degree, causes and methods of coping with stress longitudinally over the course of their studies will better illustrate the impact of stress and how these students might be best supported.

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