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Overwhelming Yet Striving; The Story of IIUM Medical Students☼

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ABSTRACT

Introduction: Medicine is known to be tough and requires more than just intelligence. The implementation of other courses was deemed necessary to equip medical students with emotional intelligence, problem-solving and soft skills. However, their perception of their study plan and its relation to their grade has yet to be explored. This study aimed to assess the association between the grade and perception of the study plan among the pre-clinical medical students.
Methods: A 47 items self-administered questionnaire was distributed to Year 2 students (n = 137) in Kulliyyah of Medicine, International Islamic University Malaysia. The questionnaire included their study plan implementation, comprising of medical and non-medical courses, and how they perceived it. We obtained their official assessment results from the academic office.
Results: Eighty four percent (n = 115) students responded. Most students spent 22 hours/week for medical courses self-study and assignments, and 18 hours/week studying and completing non-medical courses assignments after hours. Seventy percent (n = 80) felt that their schedule is overwhelming. Only 11 failed (9.6%) the medical course, and three failed other courses at least once. There was no difference in the grade regardless of feeling overwhelmed or not (p = 0.65).
Conclusion: Despite the overwhelming study plan, the proportion of failure was relatively low. While this could indicate some degree of resilience in the medical students, precaution is necessary to safeguard their physical and mental wellbeing and prevent burnout.

Keywords: Resilience; Psychological distress; Burn-out; Medical school; undergraduate

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INTRODUCTION

Medicine has always been regarded as a tough and one of the most emotionally and physically demanding courses. While medicine is known to be difficult and encompassed so much new knowledge, concepts, and facts, many have graduated from medical school and continue to make significant contributions to medicine. Nevertheless, the amount of stress in learning medical courses alone should never be underrated. Due to current curricular requirements and the rapid increment of the number of medical graduates in Malaysia, the medical students were compelled to equip themselves with interpersonal skills to produce competitive and outstanding graduates (1,2). Thus, medical schools took the initiative to implement non-medical courses concurrently with the core medical syllabus. Leadership and management, problem-solving and soft skills are among the subjects that were taught in the courses. The addition of non-medical courses which were made compulsory, on top of the heavy curriculum, could either make or break the students (3).

Undeniably, medical students are prone to experience exhaustion; and this may affect them regardless of which year or phase of the study (4). This incident has also been reported in medical schools elsewhere, including Asian, Middle East, and Western countries (5–10). Continuous stress and paramount emotional exhaustion could subsequently result in burnout (11). When this is the case, it could lead to an array of negative consequences, including deterioration in focus and academic performances, high risk of psychological distress such as anxiety, and substance abuse including tobacco and alcohol (12–14).

Combatting burnout requires more than just sheer determination but also resilience. Resilience is the adaptability to negative circumstances, surviving and growing from discouraging stressors (15). It is a continuous process that partly incorporates a positive psychosocial coping mechanism to the unpleasant situation (15). Those with high resilience are more likely to have positive personal growth with minimal negative consequences (11). Resilience is an essential attribute in the healthcare profession in maintaining the quality of care and sustaining the workload. Apart from age, health, and medicalisation, building internal factors, for example, communication skills, healthy lifestyle, self-efficacy, and social support, and training to improve inner strength were found to affect resilience among medical students (15).

The combination of burnout and low resilience is often associated with poor academic achievement and social perception, lack of competency, cognitive function deprivation, and higher anxiety and depression scores (16). In response to the growing complaints of stress, inability to cope, and exhaustion among the medical students, we would like to assess the association between medical students' performance and their perception of their academic courses. Our main hypothesis was that medical students who were overwhelmed with the courses shall perform poorly.

METHODS

Participant and Procedure

This was a single-centred survey among Year 2 students in Kulliyyah of Medicine, International Islamic University Malaysia (n = 137) in March 2021. The study protocol has been approved by the Kulliyyah of Medicine Research Committee (Research ID 776). At the time of the survey, the students have completed five (out of eight) blocks of Phase 1 (preclinical) medical course. The initial two blocks were carried out directly via face-to-face classes, while the latter was conducted during remote teaching and learning period. This cohort was chosen as they have experienced both face-to-face and remote teaching and learning phases. All students were invited to participate in this survey, but they were not obliged to.

We conducted a self-administered, online survey from 7th to 11th March 2021. The survey comprised of 47-items distributed into six sections. We obtained their written consent before they engaged in the survey, and their identity was anonymous. This was followed by sociodemographic profiles, implementation of medical courses and how they perceive it, non-medical courses implementation during face-to-face and remote teaching and learning phases and how they perceive it, and finally suggestions. The items were a mix of dichotomous items, five-scores items, and

open-ended questions. We then obtained their official academic results from the Office of the Deputy Dean (Academic Affairs and Industrial Linkage).

Data Analysis
Data were analysed using IBM SPSS Statistics for Windows version 24.0 (IBM Corp, Armonk, New York). Data were presented as mode (range) or n (%).

Ethical Clearance
The study protocol has been approved by the Kulliyyah of Medicine Research Committee (Research ID: 776).

RESULTS

Sociodemographic Profile
Eighty-four percent (n = 115) students participated in the study. Two-third (66.1 %) of the respondents were females. Most respondents were 21 years of age (range 19 to 22 years). All respondents were single, and 97.4 % underwent pre-medical courses in the same institution. Three-quarters of them expressed that they chose to read Medicine out of personal interest.

Medical Courses Implementation
Out of the classroom, most participants spent six hours/week studying the medical courses (range 2 to 14 hours), four hours/week to complete the practical and tutorial assignments, and six hours/week to complete their task and prepare for the Case Discussion or Problem-based Learning sessions. When conducting a seminar in a group (once throughout the two years of the pre-clinical phase), they spent about six hours/week preparing for it.

Non-medical Courses Implementation
All students were required to enrol in 39 to 40 credit hours of medical courses per year and recommended to enrol between 19 to 20 credit hours of non-medical courses throughout Year 1 to 3. The non-medical courses follow the semester system in which 1 semester spans through two medical blocks. It is important to note that the non-medical courses classes often take place in the afternoon and after-hours.

Most respondents enrolled between three to four subjects of non-medical courses in each semester. Each student had at least one individual and one group presentation in one semester and five written assignments per subject. The majority spent six hours/week to attend classes, six hours/week to complete written assignments, and six hours/week to complete the oral or video assignments of the non-medical courses.

We found that the number of hours spent in the non-medical courses during the face-to-face phase and the remote teaching and learning phase was similar.

Perception of the Students Towards Their Academic Courses
Most students (n = 99, 86 %) rated the medical courses as "very important" for their future careers. The majority felt that the non-medical courses are "neutral" to "not important at all" for their future career. Only fourteen (12.2 %) rated the non-medical courses as "important" or "very important."

Seventy percent (n = 90) felt that their schedule was "overwhelming" or "very overwhelming." Most of them attributed this to several factors relating to the implementation of the non-medical courses, such as:

1. Abundant and time-consuming assignments;
2. Lack of skills to complete some assignments especially video-making and editing;
3. The after-hours and long-stretched sessions, which ultimately resulted in sleep deprivation, exhaustion, and less time to revise the medical courses; and
4. Having classes or assignments during the medical courses revision week and end-of-block break.

Among those who felt "moderately overwhelmed" to "very overwhelmed", 85.5 % (n = 77) admitted that it affected their physical, mental and social wellbeing. Approximately half of them "keep to themselves," whereas others "informed family/mentor/best friends" or "informed lecturers." One student admitted to being referred to a psychiatrist for further treatment.

Academic Performance
Only 11 students (9.6 %) failed the medical courses at least once as shown in Table I. Most failures were either in block one or two during

Table I: Proportion of Students Who Reported Feeling "Overwhelmed" and Their Academic Performance in Medical Courses, N = 115

Variables	Pass all medical courses (n=104), *n* (%)	Didn't pass at least one (n=11), *n* (%)	*p*-value
			0.653
Overwhelmed (n = 80)	73 (91.3%)	7 (8.75%)	
Not overwhelmed (n = 35)	31 (88.6%)	4 (11.4%)	

Data is analysed using chi-squared test

Table II: Proportion of "Overwhelmed" Students Who Obtained Distinctions Among Those Who Pass All Blocks, n = 104.

Variables	Pass all medical courses (n=58), *n* (%)	Didn't pass at least one (n=46), *n* (%)	*p*-value
			0.014
Overwhelmed (n = 73)	35 (47.9%)	38 (52.1%)	
Not overwhelmed (n = 31)	23 (74.2%)	8 (25.8%)	

Data is analysed using chi-squared test

the first year. Of note, the teaching and learning during the first two blocks were conducted face-to-face, whereas from block 3 up to the time of the survey, they underwent remote teaching and learning due to the institution's closure during the COVID-19 pandemic.

The majority (n = 85, 73.9%) were aware of the implication of failing any of the courses. There was no difference in the passing rate of the medical courses despite feeling overwhelmed or not ($\chi 2$ (1, N = 115) = 0.2019, p = 0.653).

Further analysis showed that approximately 40 % (n = 46) of those who passed all medical courses have obtained distinction at least once. However, there was a significantly higher proportion of distinction among the "overwhelmed" compared to "not overwhelmed" respondents (52.1% vs 25.8%) as shown in Table II.

Students' Suggestions

Most respondents (87%) agreed that having no class during the revision week would be "helpful" or "very helpful" whereas two-third (67%) agreed that having some courses delivered online would help. Their other suggestions to the non-medical courses include:

1.Revising its' credit hours for medical students;
2.Reconsidering its' workload and assignment;
3.Synchronising the academic calendar by using either block or semester system for both medical and non-medical courses; and
4.Safeguarding the (medical courses) revision week and end-of-block break.

DISCUSSION

We reported the association between academic performance and perception towards the study courses among the Year 2 pre-clinical medical students in International Islamic University Malaysia. We evaluated their academic performance by referring to the passing rate of the medical courses, as they were more likely to fail the medical compared to non-medical courses. We then looked into how they perceived the courses they were taking if the courses overwhelmed them to reflect their perception.

Through this survey, we found that on an average weekday, most respondents spent in average 3.1 hours (22 hours/week) for medical courses and 2.6 hours (18 hours/week) for non-medical courses, on top of the nine hours

formal academic hours (8 am to 5 pm). Thus, this left them with only 9.3 hours per day for other activities including meals, prayers, recreation, socialising, rest and sleep. While 5.00 to 7.00 pm is considered to be golden hours to many; a time to unwind, relax and execute some leisure activities including having dinner, the students sometimes have ongoing classes.

Despite the very packed schedule that made them feel overwhelmed, less than ten percent of the respondents performed poorly in the assessments. When comparing the "overwhelmed" to "not overwhelmed" respondents, there was no significant difference in the passing rate of the medical courses. This showed that despite the difficult circumstances they were in, the majority managed to survive and progress through the academic blocks and years, indicating growing resilience (11,15). Furthermore, the majority were able to manage their stress without requiring professional treatment. Growing resilience among them could be attributed to the adaptation process as psychological morbidity has been reported to be reduced after completing a year of medical school (17).

Impressively, more than half of those who felt "overwhelmed" and passed all medical courses, had obtained distinction at least once throughout their study. The significant proportion of overwhelmed students with distinction could indicate that some of them have moved beyond surviving towards striving and thriving. However, it could also reflect their different personalities, stress management, and coping mechanisms (18). It was argued that stress and coping are associated with several different personality factors including neuroticism, extraversion, and conscientiousness (18). Those with high neuroticism and low conscientiousness are more likely to cope poorly and highly vulnerable to stress (18). Of course, it is too immature to conclude on the personality of the students at this point. However, further assessment could be beneficial in trying to assess the different personalities on academic performance. Furthermore, some may have been adopting unhealthy and maladaptive coping mechanisms such as avoidance and denial, by ignoring and keeping the stress to themselves (19). They should be guided to opt for problem-focused coping strategies that are goal-oriented, rather than emotion-focused mechanism that was reported to be associated with depressive symptoms (20).

Another limitation is that the assessment results may not reflect the students' true potential. Most of the distinctions were obtained during the Remote Teaching and Learning phase), in which different assessment tool and method was employed. In the traditional face-to-face phase, the summative assessment consists of several methods; multiple-choice questions (MCQs), modified essay questions, short notes, and objective structured practical examination. Due to the limitation in remote teaching and learning, the students were mainly assessed via MCQs only. Despite regular and timely curricular revision and reformation of the academic courses, there is always room for improvement. Stress and burnout among practising doctors were identified since they were in medical schools; thus, the contributing factor is not due to the profession itself, but rather the program as a whole (21). Although the cross-sectional nature of this survey must be interpreted with caution, it is a good practice for educators to be mindful and sentient of our students' wellbeing. Psychological distress and mental health issues could subsequently lead to impaired quality of life, substance abuse, and risk of suicidal ideation (8,22,23). After all, prevention is always better than cure.

CONCLUSION

We found no association between students' academic performance and their perception of their academic courses among medical students. Despite feeling overwhelmed, the majority manage to do well and pass the assessments, while some managed to attain distinction. This could indicate that the current academic courses instilled some degree of resilience into the students. Nevertheless, caution should be taken as not to negatively affect their physical, emotional, and social wellbeing.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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