STUDENT UNDERPERFORMANCE IN HEALTH PROFESSIONS EDUCATION: A RISK MANAGEMENT PERSPECTIVE TO HELP UNDERPERFORMING STUDENTS

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ABSTRACT

ABSTRACT: Medical students suffer from stress and psychological morbidity during their academic years which is mostly related to course work and workload. It has been a general concern in the educational arena regarding the underperformance of medical students. Literature provides a clear catalogue of reasons correlated with academic underperformance including: time management; reliance on passive learning; insufficient background and content knowledge; weakness in study skills, test-taking strategies or critical thinking and lack of self -regulation and meta-cognition. This article aims to offer a holistic yet detailed risk-management perspective to limit the risk of student underperformance among medical students. The literature will be used to identify and characterize risks; assess the vulnerability of students and the expected likelihood and consequences of specific type's risk; identify ways to reduce those risks and prioritize risk reduction measures that can be implanted as well as strategies for academic rehabilitation.

KEY WORDS: underperformance, risk management perspective, academic rehabilitation

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INTRODUCTION

A few underperforming medical students can be a cause of concern to medical teachers as poor academic performance can predict subsequent underperformance on licensing examinations and consequently become weak doctors. This highlights the importance of early identification of student underperformance and subsequent academic corrective measures[1].

Tekian and associates define underperforming students as those who have a greater probability of facing academic difficulties while in medical school[2]. There is also a strong associations between underperforming students who struggle academically in medical school and student drop-out[3].

Underperforming medical students may be identified on the basis of performance issues such as: failing assessments, low attendance, professionalism issues, (e.g., plagiarism, lateness, attitude etc.), failure to clerk and/or present patients, poor preparation for sessions, late or absent work hand in. Usually a combination of these behaviors is found in students who are facing academic difficulty, additionally psychosocial issues such as social isolation and failure to participate in learning activities, anxiety and depression may be present as well.

A possible solution may be found in risk management where it has been beneficial to curb unfavorable consequences in various fields, such as in the finance and in aerospace projects. In brief the processes of risk management entails: the identification and classification of risks; assessment the risk and the expected consequences if not addressed; the identification and prioritization of risk reduction measures that can be implanted as strategies in an overall plan[4].

This article aims to offer a basic primer to applying the principles of risk management to undergraduate medical education in order to limit the risk of student underperformance and improve and improve the quantity and quality of entrants

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graduating successfully from medical schools.

Risk assessment: Identification of root causes of student underperformance consequences if unaddressed

Student distress is suggested as the primary cause adversely affecting academic performance. It may arise due to latent causes such as mental or physical illness, problems at home or in personal life or personality issues[5]. These may be exacerbated due to problems in social interaction e.g. language and cultural issues or problems in the institutional environment. There are often found additional habitual causes that lead to student underperformance like poor organizational skills and ineffective study strategies[6].

Student underperformance, if left unaddressed, may culminate and eventually lead to burnout, dropout and even suicide[7]. Abandoning students facing academic difficulty and allowing them to dropout, or worse, is a major concern that is culturally, financially and ethically undesirable that can be detrimental to a school's reputation[8].

Risk reduction measures of student underperformance

Primary prevention/risk avoidance

Student selection in Undergraduate Medical Education

Currently in North America the principle screening criteria for eligibility into medical colleges is the Medical College Admission Test (MCAT), a standardized assessment, focusing on problem solving, critical thinking, and knowledge of scientific concepts and principles. College GPA, medical school interviews and MCAT scores were established as the three most important variables in selecting a candidate for admission to medical school[9].

In the United Kingdom the General Certificate of Secondary Education (GCSE), the scores on UK Clinical Aptitude Test (UKCAT), and an interview are used for student selection. The UKCAT focuses on exploring verbal quantitative and abstract reasoning skills, decision analysis and situational judgment- making cognitive powers of candidates; attributes considered valuable for health care professionals[10].

A comprehensive selection criterion for admission into medical schools should include student's academic performance in secondary school standardized tests and perhaps a structured interview to evaluate applicants' communication and social skills. This may help identify students who are best suited for a career in medicine and screen for underlying predisposing factors that contribute to student underperformance.

Specific supportive strategies to prevent student underperformance

Underperformance of medical students may be related to student personality, and motivation. Academic institutions may administer personality tests to identify potential at-risk students to better understand underperforming students and provide personalized support to them according to need.

Educational support strategies

The development of students' study skills which entails note taking strategies, active learning strategies, learning plans and exam strategies, may be able to help students improve their ability to grasp the content and use it for problem solving[11]. Students' language and communication skills problems may be dealt with by on-campus language development programs.

Additionally, learning styles has been found to be important in predicting student performance in undergraduate medical college, as these models help in understanding learners' motivation and approach to a learning task[12].

Emotional support strategies

Attitude and motivation are keys and working in stable groups provides essential emotional and cognitive support.

Dougherty and Nugent reviewed evidence on personality traits and performance in medical training and found conscientiousness to be the trait most favorable for predicting long term success. Additionally social traits like extraversion and self-efficacy and agreeability and openness were found to be statistically significant in predicting academic performance[13]. The big five factor model of personality may be helpful in understanding individual student personalities and prove useful when developing student profiles and predictors of student performance[14].

Student counseling may help to prevent depression or other psychological illness. Students identified early with such conditions should be referred to appropriate professional help.

Emotional intelligence (EI), which recent studies show may be enhanced and learned, can facilitate alleviating the effects of susceptibility to stress, anxiety and depression. As a general supportive measure students may be evaluated using an EI inventory[15] and offered EI development or "mindfulness" training in order to help them cope with the stress encountered in medical training[16].

Secondary prevention / risk mitigation

Developing the Educational Environment to foster Academic Success

Social cognitive theory states that, the quality of one's life is to a large extent controllable. This may be accomplished through planning, implementation, self-regulation and self-reflection about "one's capabilities, quality of functioning, and the meaning and purpose of one's life pursuits". Bandura calls this form of belief in one's capability to achieve a goal or outcome, self-efficacy[17]. In academics, self-efficacy has been found to translate into the development of intrinsic motivation, deeper learning and academic success[18]. Students with high self-efficacy also recover quickly from setbacks, and are more likely to achieve their personal goals[19]. Self-efficacy may be measured by questioning students about their beliefs about the under-

lying latent factors which contribute to its development[20].

It is important to mention the pedagogical principles that are currently being explored in medical education for developing educational environments such as, control-value, self-determination and self-regulation theories. These theories help to create a learning environment that students will find stimulating and foster positive emotions through achievement and help students have control and confidence in successfully completing their learning outcomes. These theories help faculty develop educational strategies which can nurture intrinsic motivation in their students, foster autonomy and self-regulation mechanisms in students. These are crucial for encouragement and mastery attainment[21].

The learning environment needs to foster changes in students' ways of thinking and their development as flexible, reflective learners. These programs require support from honest teachers with rigorous expectations and good facilitation. By evaluating and improving study skills, self-reflection activities, nurturing student self-efficacy beliefs through achievement; providing feedback focused on developing strategies in clinical skills and through repeated faculty development initiatives, faculty can play a crucial role in fostering these skills[22].

Risk acceptance of student underperformance

Academic Rehabilitation: intervention & support

Key to successful remediation is educational diagnosis and an individually tailored approach to management which will help develop learners' self-regulation mechanisms, competence and sense of achievement. Remediation programs for at-risk medical students should be mandatory, but should respect students' identity as repeaters. Supporting learners in difficulty is an important professional role of a medical teacher. The purpose of this is to help students develop mature, effective learning practices that will sustain them all through their professional lives. Given a carefully designed program, at-risk medical students can learn to make effective and lasting changes to their learning approaches. Implementation of this type of program will give long-term benefits to undergraduate struggling students.

Remediation in undergraduate medical education should be comprehensive to help individual students mature both academically and personally through course work, advice and mentoring from faculty. Remediation plans should be individualized to address needs specific to the remedial student such as the development of tailored learning plans[23].

Faculty members with a keen interest in helping students can volunteer as academic supervisors. Their roles can be to monitor, provide guidance and feedback on matters of personal, professional and educational development[24].

Academic supervisors play a key role as they can help in recognizing students in difficulty, investigating causes of underperformance, determining causes of underperformance, suggesting strategies for overcoming problems and following up on implemented plans and if required refer to additional supportive interventions specific to the students' needs such as psychotherapy, language, communication skills and professionalism development[25].

Remediation is a complex process that must take into account both the general and specific knowledge of learners and learning.

CONCLUSION

To summarize, based on the examples seen in medical education literature it may be recommended that medical schools may benefit in developing the following systems for managing student underperformance: 1)Robust admission criteria that include both cognitive and non-cognitive testing for selecting applicants best suited for the practice of medicine. Along with the development of student profiles incorporating prior performance scores, personality tests and learning style inventories for better monitoring and remediation planning, if needed. 2) An educational environment that fosters academic self-efficacy. 3) Academic supervision for underperforming students' emotional and academic needs.

Medical schools need to take a proactive approach in helping students develop the necessary skills that can prevent academic difficulties. The way forward is for institutions to develop contextual plans incorporating solutions and operationalize them to their contextual needs.

NOTES ON CONTRIBUTOR

All the authors were involved in every part of the analysis, idea's development, and write-up.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

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