Effect of Test Anxiety on Academic Performance among Medical Students

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Introduction to Literature Review

Test anxiety affects up to 40% of the entire student population, with medical school most affected because it features one of the more intensive and involving education programs that students pursue (Maier et al., 2021). Overall, it is normal for students to feel some level of anxiety or stress in relation to examinations. There is healthy anxiety which does not have significant implications on the outcomes of tests. However, at very high levels, anxiety potentially affects the learning process and the performance of students on their tests (Maier et al., 2021). Given the common nature of test anxiety among medical students, it is integral to examine the impact that the anxiety has on student's performance. The literature review features articles that are established the role that test anxiety plays in the test outcomes of medical students. The focus articles included factors that are relevant to the development of test anxiety, including age, gender, year of study, family, and course load. The databases that were utilized in the search for literature included PubMed, PubMed Central (PMC), Cochrane, and EMBASE. The focus of the search was India. The search terms that were utilized were test anxiety, medical students, and test and exam performance.

Review of Literature

The Relationship Between Test Anxiety and Academic Performance

Jha et al. (2019) researched the association between test anxiety and student's academic performance. The researchers in the study were associated and assistant professors working in the Department of Community Medicine, BPS Government Medical College for Women. The study was conducted from January 2018 to December 2018. Jha et al. (2019) applied a cross-sectional study design to investigate the existing relationship between test anxiety and academic

performance. Data was collected from Khanpur Kalan, Sonepat, a province in India, and the government school's location. The students who were involved in the study featured individuals who had been enrolled in the school in the period between 2013 and 2017. Students from the first to the final year of the study were integrated into the study. Through the use of a pre-designed and pre-tested questionnaire, the researchers obtained associated with socio-demographic characteristics and end-year academic performance. Jha et al. (2019) found out that there while about a quarter of the students (26.3) did not suffer from anxiety, approximately 63% of students experienced healthy anxiety, while 10.8% had unhealthy test anxiety. The results showed that students with higher anxiety levels had a lower academic performance. The researchers also found out that students from rural areas were more likely to experience both healthy and healthy anxiety. The type of family, religion, and occupation, and level of education of parents did not yield a significant correlation between high anxiety levels and students' performance (Jha et al. (2019).

The Correlation Between Test Anxiety and the Outcomes of the Tests

Semwal et al. (2022) also conducted their study on the correlation between test anxiety and the outcomes of the tests. Unlike the findings from the study by Jha et al. (2019), the research conducted by Semwal et al. (2022) did not find a connection between test anxiety and the performance of students. The latter conducted their study on undergraduate medical students between the 2016 and 2020 academic years through the use of a cross-sectional study design. The study was carried out at All India Institute of Medical Science, Rishikesh, Uttarakhand, India. Semwal et al. (2022) used self-administered questionnaires to gauge students' performance in their final exams. They also used the perceived stress scale to measure stress levels, the Ten Item Personality Inventory to assess anxiety among the students, and the Pittsburgh sleeps

quality index for evaluation of sleep quality. The study found no significant correlation between anxiety trait personality and students' academic performance. In addition, there was no significant association between perceived stress, sleep quality, and academic performance. In consideration of other variables, correlates such as gender, monthly family income, religion, place of residence, education of the head of the family, and caste showed significant association with the academic performance of students Semwal et al. (2022). On the other hand, correlates that included the occupation of the head of the family, coaching for entrance, having doctors in the family, sibling pursuing medical study, handedness, and knowledge of language did not show any significant relationship with the academic performance of the students who partook in the study Semwal et al. (2022).

How Test Anxiety affect Performance of Students

Similar to studies by Jha et al. (2019) and Semwal et al. (2022), the research by Loya & Jiwane (2019) was also conducted in a government medical school in India, Government Medical College and Hospital Chandrapur, Maharashtra, India. Loya & Jiwane (2019) also investigated the relationship between test anxiety and the performance of students. Like Jha et al. (2019), Loya & Jiwane (2019) found out that exam anxiety was associated with poorer academic performance amongst the participant students. Loya & Jiwane (2019) conducted their study through an observational cross-sectional study carried out between June 2018 to June 2019. The researchers found out that the majority of students felt that anxiety affected their level of performance. While some of the students had the opinion that anxiety improved their performance, most of them expressed that it resulted in the deterioration of their performance. The anxiety came in the form of trouble sleeping, sweaty and shaky hands, palpitations, and deciding the correct answers. The researchers also determined that most students common means

of anxiety alleviation were listening to music, watching TV, exercising, taking beverages, taking breaks, browsing the internet, doing yoga/meditation, and playing games.

Analysis of Literature

Across medical institutions in India, the issue of test anxiety is a significant problem and has implications for student's performance for the most part. The main factors associated with anxiety and the impact that this has on the test outcomes include gender, year of study, area of residence, type of family that students come from, the level of education, and occupation of parents. All articles that have been incorporated in the literature review applied cross-sectional study designs to conduct with the minor difference between Loya & Jiwane (2019), who applied observational cross-sectional design, unlike Semwal et al. (2022), who utilized descriptive design. Each research was based on a different institution, which was an integral factor in providing a more informed perspective on medical students and how exam anxiety affects them. The studies showed that there was an apparent correlation between test anxiety and academic performance. However, Semwal et al. (2022) found that there was no significant correlation between anxiety and test outcomes. What was also common across the studies by Jha et al. (2019) and Loya & Jiwane (2019) is that anxiety does not always lead to poor performance though only a minority of students expressed that anxiety helped improve their performance levels. Jha et al. (2019) and Loya & Jiwane (2019) provided perspectives on different kinds of anxieties, which further helped in showing the association that the trait has with academic performance. Consideration of healthy and unhealthy anxieties was influential in better understanding how students react to tests, as the latter form of anxiety is more likely to be tied to poor academic performance.

While there was uniformity between Jha et al. (2019) and Loya & Jiwane (2019) in regards to high levels of anxiety being associated with worse student performance, the statistics on the rate of anxiety amongst students and the impact that the characters had on the performance of students varied across the articles. This could be the result of the use of different measurement instruments, student samples, and the difference in settings. Both Jha et al. (2019) and Loya & Jiwane (2019) utilized the Nist and Diehl test anxiety questionnaire but had varied student samples (240 students and 387 students, respectively. Semwal et al. (2022) applied a different statistical tool (IBM SPSS Statistics version 23 SPSS South Asia Private Limited) from that utilized by Jha et al. (2019) (Statistical software R v 3.5.1). On the other hand, Loya & Jiwane (2019) used Epi info7 software. The variation in the statistical analysis could be a factor in the differences in outcomes.

A key variation between the articles included the incorporation of some variables or correlates, which were not common across all studies. Semwal et al. (2022) factored in coaching, having a doctor in the family, and knowledge of the English language in addition to other variables such as age, area of residence, and year of study. Only Loya & Jiwane (2019) covered the role of intervening methods such as yoga/meditation, leisure, and physical activities. The study indicated the impact of the interventions and students' personal preferences. Another difference was discernible in the study by Jha et al. (2019), as they showed that students in rural regions are more likely to experience test anxiety. Overall, the articles showed that test anxiety is a major factor among medical students, and the problem has significant implications for test outcomes. All researchers expressed the need for early interventions to minimize test anxiety's potential impact.

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