Prevalence and predictors of anxiety in healthcare professions students

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Abstract

Purpose: The prevalence and severity of anxiety among students is increasing. Elevated levels of anxiety may decrease students' academic performance, professionalism, and their ability to manage elements of patient care. Anxiety and the impact of anxiety have been well studied in medical and nursing students, but it has not been investigated as much in other healthcare professions programs. The purpose of the study is to describe the prevalence and determine predictors of anxiety in healthcare professions students.

Methods: Three-hundred and fifty-one, first and second year Doctor of Physical Therapy, Master of Science in Communication Science Disorders, and Master of Physician Assistant studies students were recruited to participate during the fall semester. Fifty-two percent, or 183 students completed the State-Trait Anxiety Inventory (STAI) and the Westside Test Anxiety Scale (WTAS), the tools used to assess different anxiety levels.

Results: Fifty-one percent of females and 37.5% of males have at least moderately high test anxiety. Eighty-three percent of students have greater than normal State Anxiety and 56% of students have higher than normal Trait Anxiety levels. The regression models identified several variables for predicting WTAS, STAI-trait (STAI-T), and STAI-state (STAI-S) scores. However, a large part of variance was unaccounted for, indicating there are other factors contributing to anxiety were not assessed.

Discussion: Healthcare professions students have higher anxiety levels compared to normative values in the general population. Qualitative research to explore further the etiology of students' anxiety is warranted.

1. Introduction

There is growing concern regarding the increased prevalence and severity of mental health disorders in university students.[1–3] In 2014, college counseling centers reported an 89% increase in students presenting with anxiety disorders over the past five years.[4] During the 2014–2015 school year, one in six undergraduate

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students in the United States were diagnosed with or treated for anxiety.[5] Anxiety also affects graduate students.[6–10] For example, medical students have higher levels of anxiety when compared with the general population.[6–9] The effects of anxiety on graduate students can be multi-faceted. Medical students with elevated anxiety levels demonstrated declines in academic performance and professionalism.[6,11] High anxiety has been linked to decreased empathy in medical students.[10]

Most research concerning student anxiety has focused on general anxiety in medical, dental and nursing students.[6–9,11–14] It is perceived that medical school is more stressful or general anxiety provoking than other graduate programs.[15,16] However, information is limited regarding the prevalence of anxiety and its severity in other healthcare professions students, specifically Doctor of Physical Therapy, Master of Science in Communication Science Disorders, and Master of Physician Assistant studies students. Frank and Cassidy[17] found that DPT students had high state and trait anxiety levels, but otherwise there is a paucity of recent data and data in other programs. The purpose of this study was to describe the prevalence of state, trait, and test anxiety levels in each profession, describe differences between the professions, and determine the predictors of anxiety in healthcare professions students. Reporting levels of anxiety in these graduate programs is a necessary step towards creating appropriate intervention strategies to decrease anxiety in healthcare professions students.

1.1. Background

Anxiety is an emotion that consists of "feelings of tension, worried thoughts and physical changes."[18] Anxiety disorders represent the most prevalent class of mental health disorders, with a lifetime prevalence greater than 15%.[19] Anxiety leads to poor health outcomes.[20] It is associated with an increased occurrence of several pathologies: irritable bowel syndrome, cardiovascular disease, chronic pain, asthma, depression and cancer.[8,9,20–24]

While there are many different categories of anxiety, this paper will focus on three types: trait anxiety, state anxiety, and test anxiety. Trait anxiety describes a predisposition for anxiety, and is a stable component of personality.[25] Heightened trait anxiety can mediate or intensify the response to a threatening situation.[8] In graduate students, trait anxiety is their baseline anxiety level. In contrast, state anxiety is a transitory anxiety that changes based on stimuli.[25] It can manifest as a disproportionate reaction to an identified or unidentified source.[8] State anxiety can last for variable lengths of time depending upon the stimulus and individual personality traits. Graduate students may experience state anxiety during graduate school or specific to exam times. Lastly, test anxiety is a heightened anxiety level around taking a test.[26] For students, state test anxiety describes increased anxiety observed in response to an impending examination.[26] Trait test anxiety is a student's predisposition towards increased intensity or frequency of test anxiety.[26] A negative association exists between heightened levels of test anxiety and academic performance in graduate and medical students.[7,27–29] Anxiety has been tagged as an important variable to consider in future research concerning predictors for success in medical school, especially given the prevalence of anxiety.[12] Determining anxiety's impact and potential mediating factors in other health professions graduate students may improve students' learning experience and success.

2. Method

2.1. Subjects

To investigate anxiety in health professions students, trait, state and test anxiety levels were compared among graduate students at the MGH Institute of Health Professions (MGH IHP) in Boston, MA. The MGH IHP is a graduate institution focusing on health professions education. The academic programs assessed included Doctor of Physical Therapy (DPT), Master of Science in Communication Science Disorders (CSD), and Master of Physician Assistant studies (PA). The inclusion criteria for this study included enrollment in one of the identified programs. There were no exclusion criteria.

2.2. Research design

The study was a cross-sectional observational study. The first and second year students in each program were surveyed during the fall 2016 semester. The study was timed a few weeks after the students acclimated to their classes, but prior to midterm examinations. The study was approved by the institution's Internal Review Board. All data collected was anonymous.