

Prevalence of research-related anxiety among students of Allied Health Sciences

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ABSTRACT

Background: Anxiety is one of the most common mental disorders. Although being detrimental, it is less researched upon than depression. While research is an essential component of medical education, it is also unfamiliar to undergraduate medical students. Therefore, research at the undergraduate level has been shown to cause anxiety among students.

Objective: To determine research-related anxiety among Allied Health Sciences students.

Methods: A cross-sectional study was conducted in which a sample of 150 undergraduate students was selected on the basis of inclusion (no past history of mental illness, no traumatic incident in past 6 months and allied health sciences student from final year) and exclusion (traumatic incident in past 3 months, failure in recent major exam) criteria. The participants after signing the informed consent were recruited in the study through a non-probability convenient sampling technique. The data was collected using Generalized Anxiety Disorder scale (GAD-7 scale). Data were analyzed through SPSS version 21.

Results: In this study, 150 undergraduate students participated in the study. Results showed that out of the 150 students, 90 (60%) had mild anxiety related to research, 32(21%) students had moderate level anxiety, and 28 (18%) students had severe anxiety.

Conclusion: According to the results of this study, the majority of students in their final year or semester experienced mild levels of research related-anxiety.

Keywords: Allied health, Anxiety, Research, Students.

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Introduction:

Anxiety is our body's natural response to stress or threat, serving as an 'alarm' that alerts us of potential danger. Ordinary anxiety, although is unpleasant but the discomfort is meant to stimulate a protective response which eventually turns out to be beneficial. Performance on cognitive tests might be improved by some degree of anxiety in people with good working memory.(1) Anxiety disorders are the most common of mental disorders and affect nearly 30% of adults at some point in their lives. Although it is almost as impairing as depression it is relatively less studied.(2) Several types of anxiety disorders, including generalized anxiety disorder (GAD), panic disorder, phobias and separation

anxiety. Based on previous studies, researchers found sources of anxiety among students such as mathematic anxiety, language barrier anxiety, family pressure anxiety, exam anxiety, presentation anxiety, and social anxiety. Due to this, students cannot perform well in their academics leading to an effected performance in research.(3)

In a study done by Jennifer N. Shearer, MSN, RN, she found that fears such as critique by Peers and Faculty, and experience of making mistakes among students is also one of key factors that contribute towards anxiety.(4) Anxiety has both physical and psychological symptoms. The psychological symptoms being fear, worried thoughts, restlessness, irritability, uncontrollable obsessive thoughts and insomnia.(5) The general physical symptoms are: heart palpitations, sweaty palms, and tremors, difficulty in breathing, muscle twitches, nausea and headaches.(6)

There are three main brain circuits in the anxiety circuitry, namely the Amygdala (the central emotional processor), the Prefrontal Cortex and the Hippocampus. When incoming stimuli from inner or outer world is interpreted as a threat by the Amygdala, anxiety starts. A distress signal is sent to other parts of brain, mainly the

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Hypothalamus. The Hypothalamus relays the signals, setting off the stress response as the sympathetic nervous system is switched on. Body is pitched into a high state of alertness when Epinephrine is released, heart rate and blood pressure rise, breathing rate is increased. Long-term standing anxiety can cause chest pain, palpitations, digestive issues and muscular pains. Sometimes people even seek treatment for these physical symptoms without even getting to the root cause of the problem.(7) The Information Search Process (ISP) model proposed by Kuhlthau was supported by the data analysis, which also identified additional affective and cognitive components of research and writing in their study regarding research-anxiety and students' perceptions of research.(8)

The final year research project is a high-impact educational approach that has been shown to boost student knowledge as well as problem-solving and analytical skills. As a result, it is critical to the professional and personal growth of final-year medical students.(9) The amount of time, effort, and dedication necessary for final-year students' research projects is particularly substantial and demanding. According to reports, even though most education students don't fully understand what research methods are about, they often feel stressed and anxious as they begin their research methods courses.(10) In particular situations, prior knowledge, course grade, course status (i.e. obligatory or elective), major, attitudes toward calculators, and course and teacher evaluation are situational elements that have been found to be particularly connected to statistics anxiety.(11) Numerous research also showed a correlation between statistical anxiety and unfavorable earlier experiences with mathematics, poor academic performance in mathematics, and a low sense of mathematical self-efficacy.

Therefore, students' research anxiety is one of the most prevalent fears among medical students. Fear and uncertainty connected with genuine scientific study and output are referred to as research anxiety.(12) Research anxiety can affect the quality and quantity of scientific output, as well as the satisfaction, personal life, and physical or emotional health of researchers. It can also contribute to burnout, because high levels of anxiety can lead to long-term physical, physiological, and behavioral issues easily develop anxiety and sadness as a result of such stress and obligations.(13) So this study aimed to determine levels of anxiety in AHS students undergoing research projects in final year.

Methods:

A cross-sectional study was conducted in which a sample of 150 undergraduate students was selected on the basis of inclusion (no past history of mental illness, no traumatic incident in past 6 months and allied health sciences student from final year) and exclusion (traumatic incident in past 3 months, failure in recent major exam) criteria. Ethical permission was taken from the research committee of Bashir Institute of Health Sciences, Islamabad (BIHS) with ERC letter Ref. # BI-05/DPT/2021. To approve the willingness of participants, a mandatory informed consent was signed by them. Their data was kept confidential. The participants after signing the informed consent were recruited in the study through a non-probability convenient sampling technique. Participants were selected on the basis of inclusion and exclusion criteria. The study setting for this research was the Bashir Institute of Health Sciences, Islamabad. The study duration was of 3 months after approval of the synopsis which was (07/07/2021 to 01/10/2021). Study sample size was 150 undergraduate students who were selected on the basis of inclusion and exclusion criteria. Study outcome measurement tool was a standard scale, the Generalized Anxiety Disorder scale (GAD-7 scale, ICC= 0.86) which was used to measure research-related anxiety among students(14,15). After signing the informed consent, the questionnaires were distributed among those 150 students and their responses were collected by hand. For descriptive analysis frequency and percentages, data was analyzed through Statistical Analysis software (SPSS version 21).

Results:

Demographic data showed 66(44%) study participants were female and 84(56%) were males. shown in Figure 1.

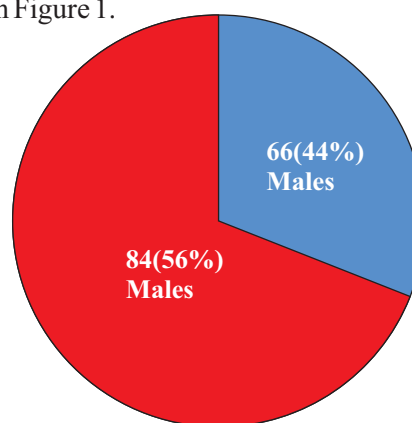


Figure 1: Pie chart showing frequency of gender of participants

The level of anxiety among undergrad students was evaluated by the GAD-7 scale and has been shown in table 1. It was found that out of the 150 students, 90(60%) had mild anxiety related to research, 32(21%) students had moderate level anxiety, and 28(18%) students had severe anxiety.

Table 1 : The level of Anxiety among participants

Level of Anxiety	No. of students	%
Mild	90	60%
Moderate	32	21%
Severe	28	18%

Discussion:

The concept of statistical anxiety related to research has received the majority of study interest for more than 30 years. The findings of this study highlighted the necessity to focus more on the holistic development of research.(10) Anxiety is as draining as depression but it is often undetected and therefore has gathered less attention among the general population.(12) In this study, we investigated the research-related anxiety among students of Allied Health Sciences. The demographic data of in this study sample consisted of 16 (32%) females and 34(68%) males. From the results obtained from the GAD-7 questionnaire, it is apparent that most of the students had mild levels of anxiety while a few have moderate levels of research anxiety.

In a study by Onwuegbuzie, while discussing the factors of anxiety among under graded related to research, he stated that there is a relationship between self-perception and research anxiety that is bidirectional as a major factor influencing anxiety.(16) Another factor which contributed was that students who appreciated the value of the course became more irritated when confronted with such research related problems, which can lead to an increase in anxiety. The findings demonstrated by another study were that students with easier research courses were more likely to experience lower levels of anxiety.(17) Study conducted by Ali Mercy in Turkey showed overall moderate level of anxiety among Turkish graduate ELT students. It also suggested that factors like gender and level of study had minor effects on research anxiety.(18) Similar to this study, a cross-sectional survey showed that 72.67% of students faced research anxiety and 74% of students reported difficulty in research.(13) This study’s results was supported by previous research data which indicated that final-year students are highly susceptible and at greater risk of developing research-related

anxiety.(19), despite being at its mild stage but still having alarming concerns for both the mental health and educational development of our students, especially the male student population.(20)

The study is limited as it was conducted among the students from a single institute and the results could be better generalized if the study is carried among multiple institutes with different faculties. The data was based upon self-reported results and thus, individual biases cannot be excluded. It is recommended that field experts, research mentors, and supervisors who greatly influence the outcome of results must help reducing the fear of students through their efficient guidelines and helping attitude.

Conclusion:

The study concludes that final-year students are at mild level of research- related anxiety which is a concern for both the mental health and educational development and well-being of students.

Disclaimer: This study is a part of undergraduate Doctor of Physical Therapy thesis.

Conflict of Interest: None to declare.

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Author's contribution:
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Khan HM: Supervision
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