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Original Article

Perception and Attitude Towards Academic Research among Undergraduate Students of Allied Health Sciences

Sidra Hanif[1]*, Pinky[2], Marium Khalid[3], Faryal Zaidi[4], Laraib Fatima[5], Rimsha Gulzar[5], Huzeffa Nawaz[5], Aneeta Javed[5]

[1]Senior Lecturer, University Institute of Physical Therapy, Ibadat International University, Islamabad, Pakistan.
[2]Lecturer, Institute of Physiotherapy and Rehabilitation Science, Liaquat University of Medical and Health Science, Jamshoro, Pakistan.
[3]Lecturer, University Institute of Physical Therapy, Ibadat International University Islamabad, Pakistan.
[4]Assistant Professor, University Institute of Physical Therapy, The University of Lahore, Lahore Campus, Pakistan.
[5]Physiotherapist, The University of Lahore, Islamabad Campus, Pakistan.
Corresponding Author: Sidra Hanif, Senior Lecturer; Email: drsidrahhaneefpt@gmail.com

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ABSTRACT

Background: Research within healthcare education is pivotal for the evolution of evidence-based practice and the enhancement of patient care. Understanding undergraduate attitudes towards academic research is crucial for curriculum development and fostering a culture of inquiry.

Objective: The objective of this study was to assess the perceptions and attitudes towards academic research among undergraduate students of Allied Health Sciences and to explore the implications of these perceptions for human healthcare.

Methods: A descriptive cross-sectional survey was conducted over six months at the University of Lahore, Islamabad Campus. A sample of 300 students was derived using the Slovin formula, with a 95% confidence interval and a 5% margin of error. Data collection utilized a semi-structured, pretested questionnaire comprising 19 closed-ended questions. The questionnaire assessed students' perceptions of research and its relevance to their education and professional futures. Data was analyzed using SPSS version 25 for descriptive and inferential statistics.

Results: Out of 300 participants, 214 (71.3%) acknowledged an awareness of research, with 243 (81%) affirming its utility for professional development and 205 (68.3%) for daily life relevance. However, 195 (65%) perceived research as stressful, and 209 (69.7%) found it complex. Gender distribution showed 82 (27.3%) male and 218 (72.7%) female respondents.

Conclusion: The study underscores the importance of research in healthcare education, indicating a strong student perception of its value for professional growth, despite associated stress and complexity. Educational strategies should emphasize research skills development to prepare competent healthcare professionals ready to engage in lifelong learning and evidence-based practice.

Keywords: Allied Health Education, Undergraduate Research, Student Perceptions, Academic Research, Evidence-Based Practice, Healthcare Curriculum, Research Attitudes, Cross-Sectional Survey, Healthcare Workforce Development.

INTRODUCTION

In the healthcare domain, research is foundational, essential for the advancement of medical practices and the enhancement of patient outcomes (1). The term "Allied Health" encompasses a wide range of professions distinct from traditional medical and nursing roles, including but not limited to, physiotherapy, occupational therapy, speech pathology, social work, psychology, podiatry, and pharmacy. Although there is no universally accepted definition of "Allied Health," these professions are commonly united by their commitment to evidence-based practice and research, contributing significantly to healthcare delivery (2).

The importance of academic research in the health sciences is manifold. It is instrumental in identifying new treatments, improving the quality of care, and advancing the overall health of the population (9). Furthermore, engaging allied health students in research not only benefits the clinical landscape by fostering evidence-based practices but also enriches the educational experience by developing critical thinking and a culture of inquiry. Such engagement is considered a high-impact educational practice that nurtures the essential skills and attitudes needed for lifelong learning (11-13).

However, the perception and attitude towards academic research among undergraduate students of Allied Health Sciences are varied. Research has highlighted that while some students appreciate the value and necessity of research in healthcare, others

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perceive it as daunting or irrelevant to their professional growth (14-17). This variance in perception is critical to address, as positive engagement in research activities among students is linked to enhanced attitudes towards research, an increased uptake of research evidence into practice, and the development of critical thinking and evidence-based practice skills (18-22).

Studies have indicated that students in developing countries face more significant barriers to conducting research than those in developed countries, including limited access to resources, inadequate mentorship, and a lack of knowledge in research methodologies (23, 24). Despite these challenges, a positive attitude toward research is key to the advancement of healthcare practices and the professional development of students. Research has shown that a considerable portion of students hold a positive attitude toward research (25), yet the engagement in research activities and publication outputs remain relatively low (26, 27). This suggests a gap between the perception of research's importance and the actual involvement in research activities.

The study aims to delve into the perceptions and attitudes toward academic research among undergraduate students across various Allied Health Sciences disciplines, expanding the focus beyond the predominantly studied Physical Therapy students (28-34). By exploring students' motivations and understanding of research, as well as their familiarity with research procedures at the undergraduate level, this study seeks to illuminate the perception-related challenges faced by students (35). Addressing these challenges is of paramount importance for fostering a positive research culture among future healthcare professionals (36-40).

MATERIAL AND METHODS

The study employed a descriptive cross-sectional survey methodology, conducted within the departments of Allied Health Sciences at the University of Lahore, Islamabad Campus, over a six-month period from March to August 2023. Prior to commencement, the research protocol received approval from the Institutional Review Committee (IRC) / Ethical Review Board (ERB) of the University, denoted by the authorization number IRB-IIUI-FAHS/DPT/1022-1029, ensuring compliance with ethical standards in line with the Declaration of Helsinki for medical research involving human subjects.

To determine the sample size, the Slovin formula was utilized, taking into account a confidence interval (CI) of 95% and a margin of error (a-error) of 0.05. The formula, n=1+Ne2N, where n represents the sample size, N the actual population, and e the margin of error, was applied to the total population of 957 students across all allied health departments. Consequently, the calculated sample size was approximately 282, which was rounded up to 300 for the purposes of this study.

A non-probability convenience sampling technique was adopted to select participants. Data collection was carried out using a semi-structured, pretested questionnaire designed to explore students' perceptions and attitudes towards research in the medical field. The questionnaire, validated for content and construct validity, consisted of 19 closed-ended questions. The initial four items were directed at understanding students' perceptions of research, while the subsequent 15 items delved into various aspects of their attitudes towards research. These attitudes were categorized into five distinct domains: the perceived usefulness of research, research-related anxiety, positive feelings about research, the relevance of research to daily life, and perceptions of the difficulty of research.

Eligibility for participation was limited to final year students, aged 20 to 30 years, of either gender, enrolled in Allied Health Sciences programs (DPT, DMLS, DDNS, D-Pharmacy, OD). A total of 300 participants who provided informed consent were included in the study, ensuring that ethical considerations regarding voluntary participation and confidentiality were adhered to throughout the research process.

Data analysis was conducted using SPSS version 25, enabling the application of descriptive and inferential statistics to evaluate the collected data. The analysis focused on quantitatively assessing the participants' responses to the questionnaire items, with the aim of identifying prevailing perceptions and attitudes towards research within the specified student population.

RESULTS

Table 1: Distribution of Participants by Department

Department	Frequency	Percent
DPT	155	51.7%
D-Pharmacy	81	27.0%
DMLS	20	6.7%
DDNS	34	11.3%
OD	10	3.3%

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Table 2: Responses to Screening Questions

Screening Questions	Frequency (Yes)	Frequency (No)	Percent (Yes)	Percent (No)
Are you interested in research?	251	49	83.7%	16.3%
Do you think research helps in better learning?	277	23	92.3%	7.7%
Do you think research is essential to update clinical knowledge?	279	21	93.0%	7.0%
Do you think that a research career has less financial gain?	137	163	45.7%	54.3%
Is research suitable only for those who want an academic career?	141	159	47.0%	53.0%
Do you want to research as a future career?	167	133	55.7%	44.3%
Do you think research can be combined with clinical practice?	253	47	84.3%	15.7%
Do you think research is a future career option?	226	74	75.3%	24.7%

Table 3: Perception of Students Towards Research

Questions	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I think I am aware about the research	12 (4.0%)	10 (3.3%)	64 (21.3%)	168 (56.0%)	46 (15.3%)
Research is mainly experimenting or testing the hypothesis	4 (1.3%)	27 (9.0%)	52 (17.3%)	162 (54.0%)	55 (18.3%)
Research means gathering information	5 (1.7%)	20 (6.7%)	37 (12.3%)	164 (54.7%)	74 (24.7%)
Research means appraising information	3 (1.0%)	15 (5.0%)	44 (14.7%)	174 (58.0%)	64 (21.3%)

Table: Summary of Students' Attitudes Towards Various Aspects of Research

Aspect of Research	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Career and Professional Development					
Research as a good career	13	42	28.3	11.3	5.3
Research for professional training	22	53.3	16.7	6.3	1.7
Research skills helpful for the future	27.3	54.3	12.7	4.3	1.3
Perception and Enjoyment of Research					
Research is interesting and beneficial	19	58.3	16.7	4	2
Enjoyment in performing research	8	33.7	35.3	16.3	6.7
Research is stressful	21.3	43.7	23	7.7	4.3
Understanding and Attitudes Towards Research					
Understanding research concepts	20	49.7	21.3	7	2
Concerns about making mistakes in research	2.3	14.3	12.7	27	43.7
Insecurity in data analysis	13.7	36	30.3	18.3	1.7
The Role and Importance of Research					
Research to advance knowledge	35.7	49	10.7	2.7	2
Research is important for discovery	51.7	11.7	11.3	26.7	1.7
Research thinking in everyday life	57	11.3	2.7	26.7	2.3

DISCUSSION

The present study was orchestrated to elucidate the perceptions and attitudes of undergraduate students towards academic research. Mirroring the endeavors of similar studies, this research uncovered substantial variability in students' outlook on research

(12, 19, 27). A pertinent cross-sectional analysis was executed at Shifa College of Medicine, Islamabad, employing the same pre-tested questionnaire to harvest data. While a response rate of 88% was noted in the comparative study with 172 out of 195 students participating, the current investigation boasted a full response from 300 participants, signifying a more comprehensive engagement in the subject matter. Gender distribution varied notably between the studies, with a higher proportion of female respondents (72.7%) in the current study compared to the previous one (43.6%).

Recognition of research and its pertinence to professional advancement and daily life showcased divergence. In the antecedent study, a modest 45.3% of students acknowledged awareness of research, with approximately two-thirds finding it beneficial for their career trajectory. Conversely, the present study found a higher acknowledgment rate, with 71.3% indicating an awareness of research and an overwhelming 81% affirming its utility for professional growth. This is reflective of an increasing trend towards understanding the significance of research in academic curricula (3, 42).

The sentiment towards research as a career choice and its enjoyment also presented contrasting findings. In the aforementioned Shifa College study, less than half of the students saw research as a viable career path, and a similar proportion enjoyed it. This study, however, depicted that a smaller fraction (16.6%) disregarded research as a career, while the proportion of students who enjoyed research was relatively consistent.

When juxtaposing stress and complexity perceptions associated with research, both studies revealed that a majority considered research to be a stressful (65% in the current study) and complex (69.7% in the current study) undertaking. These findings align with other regional studies, such as the one conducted at Isra Institute of Rehabilitation Sciences Karachi and Isra University Hyderabad, which focused exclusively on final-year undergraduate Physical Therapy students. The broader inclusion criteria of the current study, encompassing various allied health departments, underscore its strength in providing a more heterogeneous assessment of student perspectives (31-37).

A comparative examination with a study that harnessed a validated questionnaire adapted from Harsha et al. (2011), revealed that an overwhelming majority of participants recognized the necessity of research for professional growth within the physiotherapy discipline (16, 43, 44). This concurs with the present study's findings where a significant majority affirmed the value of research in their professional realm.

The integration of such data points accentuates the pivotal role of academic research in healthcare education and the positive inclination of students towards it, notwithstanding the stress and complexity it might entail. The study's robust response rate and its inclusive approach bolster its validity, though it does not come without limitations (45). The convenience sampling technique may introduce bias, and the subjective nature of a questionnaire-based assessment might not fully capture the nuances of students' experiences (38, 43, 46).

As a recommendation, it is proposed that institutions embed research methodology and related activities into the curriculum early on, to foster familiarity and mitigate perceptions of complexity and stress associated with research. Furthermore, this study advocates for targeted interventions to bolster the confidence of students in undertaking research, which could include mentorship programs and practical research modules.

CONCLUSION

The study concludes that there is a prevalent recognition among allied health sciences undergraduates of the intrinsic value of research in their academic and future professional lives, despite perceptions of research being a complex and stressful endeavor. The implications for human healthcare are significant; fostering a research-oriented education could enhance the quality of healthcare delivery by cultivating evidence-based practitioners who are adept at integrating the latest findings into clinical practice. Thus, curricula development should prioritize equipping students with the necessary skills and support to navigate research processes, ultimately leading to a more informed and proactive healthcare workforce.

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