ORIGINAL ARTICLE

Perception and Attitude towards Research: A Comparative Study among medical and non-medical undergraduate students at University of Lahore

TAZEEM SHAHBAZ[1], NAZISH MASOOMA[2], MUHAMMAD BILAL NAEEM[3], *HINA SIDDIQUI[4], IQRA NAWAZ[5], ZAIMA FIRDOUS[6]*

ABSTRACT

Background: Research is a human move making into the record for usage of brains to investigate, translate, and upgrade human, finding out about unmistakable parts of the world.
Aims: To assess the knowledge and attitude of Undergraduate students towards research and to compare the attitude and knowledge of medical and non-medical students towards research.
Methods: A cross-sectional study was done by spreading the Questionnaires to 200 students each from Medical (MBBS, BDS) and Non-Medical Departments (Law, BBA, Engineering Deptt.) of 4th year and equivalent 7th/8th semesters. Sampling was done by convenient method.
Results: 400 students were asked to fill out the Questionnaires provided, 200 were medical students (including MBBS, BDS & DPT) and 200 non-medical students (including Law, BBA and BSC) to fill the Questionnaires.175 (43.8%) were male and 225 (56.3%) were female students. 344(86%) responded that research is an important aspect of their field of studies. 268(67%) quoted that research should be mandatory at undergraduate level. 139(34.8%) preferred research as a discipline should be added as a compulsory discipline.292(73%) think that performing research at undergraduate level and onwards, add weight age to the professional curriculum vitae.295(73.8%) think that research is an important factor to improvise in the career. Regarding difficulty in doing research, 153(38.3%) mentioned curriculum overload, 93(23.2%) faced lack of professional supervision.
Conclusion: Students wanted to carry out Research at Undergraduate level, but due to lack to proper guidance and unavailability of proper funding from University, they were unable to excel in the field.
Keywords: Attitude, perception, undergraduate students

INTRODUCTION

Research manifests inventive work attempted on an accurate reason with a specific end goal to expand the supply of learning, including information of human, culture and society, and the utilization of this load of information to devise new applications[1].The importance of research for the most part conveys that a variable must be controlled, paying little heed to the way that pertinent examinations and totally observational science don't all things considered acclimate to this standard[2].

Research is a human action taking into account the utilization of brains to explore, decipher, and overhaul human learning about distinctive parts of the world. Examination redesigns restorative understudies on the most recent advances in medication and science and gives new elucidations of existing actualities. In any case, a pattern far from exploration exercises has been seen, especially in developing countries[3]. In Pakistan, a diminished level of enthusiasm for research is found in some medical students[4].

In research led at Aga Khan University (Karachi, Pakistan), it was found that information of research is lower, and states of mind more impassive, amid the introductory years of restorative school[5]. Another study demonstrated that understudies confront various issues in leading examination: educational program over-burden, time impediment, absence of legitimate preparing, uncooperative staff, and absence of inspiration and incentives[6].

Another study at the same college built up that understudies experiencing address based learning indicated less enthusiasm for wellbeing examination than those experiencing issue based learning[7]. It has been found that absence of enthusiasm for research among medical undergraduates' results from inadequate consideration given by the personnel and organization to medical understudies, which can be enhanced by an all-around considered approach[8].

---

[1]Department of Community Medicine, University College of Medicine and Dentistry, the University of Lahore
[2]Student of Research Assessment & Education, IER, University of the Punjab Lahore.
[3,4,5,6]4th.Year. University College of Medicine and Dentistry, The University of Lahore
Correspondence to Dr. Tazeem Shahbaz, H No 19 Block D-2 Johar Town Lahore Email.tazeemshahbaz@hotmail.com Cell: 03018235535

Another study demonstrated that absence of enthusiasm for research is more common among medical students contemplating in broad daylight public medical colleges than among those in private medical schools[9]. The strict meaning of research is performing a precise study so as to demonstrate a speculation or answer a particular inquiry. Discovering an authoritative answer is the focal objective of any test procedure. Research must be efficient and take after a progression of steps and an unbending standard convention. These principles are comprehensively comparable however may change marginally between the distinctive fields of science[10].

At the post graduate level, the powers under the umbrella of College of Physicians and Surgeons Pakistan (CPSP), Pakistan Medical and Dental Council (PMDC), Pakistan Medical and Research Council (PMRC), Ministry of Health and Higher Education Commission (HEC) are attempting to advance great quality exploration through necessary workshops. Summation composing is required for the postgraduates however most are included in investigating minor study goals which from time to time get distributed in extensively read diaries and are just submitted to CPSP to be secured cupboards[11]. Due to absence of examination driven and sensible arrangement making, including those of exploration, there has been disappointment of human services approaches in the past[12].

The objectives of our study are to see what students perceive about research at undergraduate level, to see the attitude of students in carrying out research and are keen to take it as a career later on. Our study will also assess what knowledge they possess about research and what problems they face from Institution's side or in lacking any supervisor.

MATERIALS & METHODS

This study was done by spreading the Questionnaires to 200 students each from Medical (4^{th} year MBBS) and Non-Medical Departments (Law, BBA, Engineering Deptt.) of equivalent 7^{th}/8^{th} semesters. It was a comparative study conducted in the University of Lahore during period of 3 months.
Sample size was 200 Medical and 200 Non-medical students. Sampling technique used was convenient sampling was done.

Inclusion criteria: Medical students of 4^{th} year MBBS and Non-medical students of BSCS, Law and LBS 7^{th} and 8^{th} semester were included in our study.

Exclusion criteria: Medical students of 1^{st}, 2^{nd} and 3^{rd} year MBBS and all other Non-medical departments except BSCS, Law and LBS were excluded.

Ethical consideration: A verbal informed consent was obtained from student at the time of questionnaire distribution.A preformed Questionnaire was used as tool for data collection. Questionnaires were distributed randomly among the Medical and Non-medical students. Questionnaires were distributed, filled and collected at the same time under supervision.The data was examined, organized and then analyzed by using SPSS 17

RESULTS

Of the 400 potential respondent approached, all 400 replied with a response rate of 100%. The analysis of demographic characteristics of the study group illustrated that 175(43.8%) were male and 225 (56.3%) were female students, half of them 200(50%) were medical students (including MBBS, BDS & DPT) of 4^{th} year in University of Lahore and other half 200(50%) were non-medical students (including Law, BBA and BSCS) of 7^{th}& 8^{th} semester in University of Lahore. Among 400 potential respondent, 344(86%) responded that research is an important aspect of their field of studies and 56(14%) think it is not important to do research regarding their field of studies. Out of 400 total respondents, 268(67%) quoted that research should be mandatory at undergraduate level and students should encourage to do and publish their researches. 132(33%) stated that it is no use of making research mandatory at undergraduate level. 139(34.8%) preferred that scientific methodology of research as a discipline should be added as a compulsory discipline, while 213(53.3%) commented that is should be added but only as an elective subject. 48(11.9%) stated there is no need of adding scientific methodology as elective or compulsory subject at undergraduate level (Table 1).

Table 1: Scientific methodology of research as a discipline.

Variable	Results
Compulsory	139(34.8%)
Elective	213(53.3%)
No Need	48(11.9%)

Table 2: Difficulty in carrying out research at undergraduate level

Variable	%age
Curriculum overload	38.3
Lack of exposure	25
Unavailability of samples	14.2
Lack of funding	19
Lack of time	42.2
Poor accessibility to database	15
Lack of professional supervision	23.2
Lack of training courses	25.2
Extracurricular activities	12
Lack of motivation	19.5

240(60%) give opinion that publishing research should be an important criteria of selection for further jobs after graduation. While 160(40%) stated that it shouldn't be a criteria for further continuation of studies. 292(73%) think that performing research at undergraduate level and onwards, add weight age to the professional curriculum vitae. 108(27%) think it do not produce any affect on the resume. 295(73.8%) think that research is an important factor to improvise in the career. 105(26.2%) stated that it is of no use to do research to excel in career.On asking about adopting research methodology as a profession, 215 (53.8%) replied in positive, while 185(46.3%) responded as they don't want to continue as profession.205(51.3%) commented that their teachers talk about undergraduate research and its importance in class room but not often. 98(24.5%) stated that teachers emphasize majority. 97(24.2%) replied that their teachers don't talk about research and its importance.255(63.8%) agreed that the institute support and encourage for students to do research while 145 (36.2%) students stated that institute do not encourage or support the research at student level. On asking about main difficulty in doing research, (some replied for more than one issue), 153 (38.3%) said they have curriculum overload, 100(25%) had lack of exposure, 57(14.2%) have unavailability of samples, 76(19%) think it is due to financial issues and lack of funding, 169(42.2%) lack time to carry out research, 60(15%) has poor accessibility to database, 93(23.2%) faced lack of professional supervision, 101(25.2%) lack training courses, 48(12%) replied as due to extracurricular activities it is difficult to do research. 78(19.5%) has lack of motivation to do research. 48(12%) stated that research is faculty forced leading to further de-motivation. 49(12.3%) think it is completely useless to do research (Table 2).

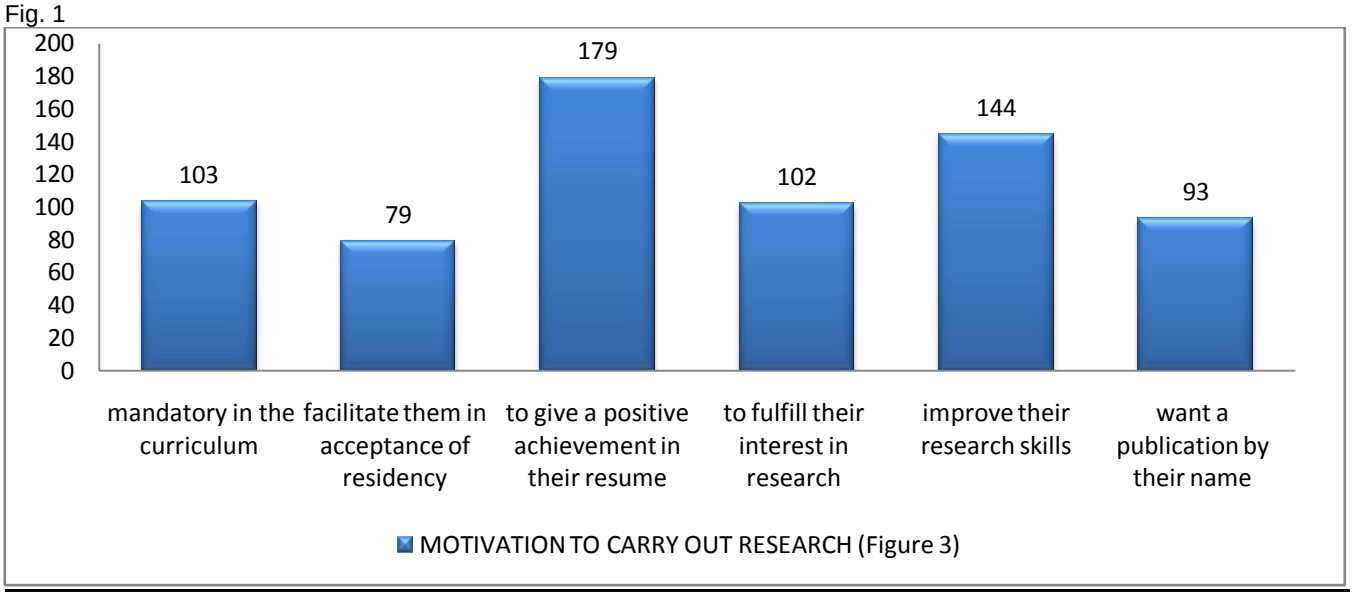
132(33%) students had a previous experience of doing research while 268(67%) students did not have any previous experience. 44(11%) stated that it is easy to proceed research work along with studies. 313(78.2%) commented that it is very tough to do research work along with studies while 43(10.8%) replied that it is impossible to carry out research along with regular studies. 217(54.2%) agreed that they have read articles/ research journals while 183(45.8%) haven't read any article/research journal. Among 400 total respondents, 160(40%) have attended research seminar/ conference and 240(60%) haven't attended any such seminar or conference. 147(36.8%) find doing research easy while 253(63.2%) found doing research difficult. On inquiring about the best source for research articles and related information, (some replied for more than one source) 50(12.5%) are in favor of books, 91(22.8%) replied for journals, 224(56%) commented for internet and 90(22.5%) stated that seminars are the best source for getting information regarding research articles and related information.

Table 4: Results of our Research as per Questionnaire.

Questions		**Medical**	**Non-medical**
Importance of research in your study field?	Yes No	85.5% 14.5%	86.5% 13.5%
Research at undergraduate level?	Yes No	63.5% 36.5%	70.5% 29.5%
Scientific methodology in undergraduate course?	Yes(compulsory) Yes(elective) No	32.5% 53.3% 13.5%	37.0% 52.5% 10.5%
Research important criterion for selection after graduation?	Yes No	52.5% 47.5%	67.5% 32.5%
Research good for resume?	Yes No	78.0% 22.0%	68.0% 32.0%
Research necessary to excel career?	Yes No	69.5% 30.5%	78.0% 22.0%
Research interesting field to adopt as profession?	Yes No	46.5% 53.5%	61.0% 39.0%
Teachers discuss about UR in class?	Yes (majority) Yes(minority) No	57.5% 18.5% 24.0%	45.0% 30.5% 24.5%
Institute support or encourage for research?	Yes No	70.5% 29.5%	57.0% 43.0%
Main difficulty in UR in UOL? curriculum overload?	Yes No	42.5% 57.5%	34.0% 66.0%
extracurricular activities	YES NO	5.0% 95.0%	19% 81%
Find research useless	YES NO	12.5% 87.5%	12% 88%
Lack of previous exposure	Yes No	26.5% 73.5%	23.5% 76.5%
Unavailability of sample/patients	Yes No	17.5% 82.5%	11% 89%
Difficulty in obtaining funding	Yes No	19.5% 80.5%	18.5% 81.5%
Lack of time	Yes No	49% 51%	35.5% 64%
Poor accessibility to databases	Yes No	14% 86%	16.1% 83.9%
Lack of professional supervisors	Yes No	22.5% 77.5%	24% 76%
No motives/incentives	Yes No	23% 77%	16% 84%
Faculty forced research	Yes No	11% 89%	13% 87%

Among 400 respondent, (some replied for more than one motivation) 103(25.8%) has motivation of doing research because it is mandatory in the curriculum, 79(19.8%) think it will facilitate them in acceptance of residency program. 179(44.8%) are motivated to do research to give a positive achievement in their resume. 102(25.5%) want to fulfill their interest in research by doing it. 144(36%) want to do research just to improve their research skills. 93(23.3%) want a publication by their name so they are motivated to do a research (Fig. 1).

Fig. 1



DISCUSSION

Our study concentrated on the observations, states of mind and attitude of senior medical understudies toward research. This theme is critical in light of the fact that comprehending the observations and demeanors of understudies toward this issue can prompt change of exploration practices among future doctors[13].

The negative states of mind of medical understudies toward research have been found to serve as a deterrent to learning connected with poor execution in examination[14]. The majority of the medical undergraduates are not mindful of why research is pivotal to human services[15]. Absence of undergraduate gatherings and exploration workshops on the best way to compose and arrange examination papers is among the explanations behind such negative mentalities[16].The support of those youthful specialists is not adequate. Absence of time was seen as a noteworthy boundary to seeking after research amid restorative school because of the occupied educational module[17].

In a study done in Canada, found that despite the fact that the lion's share of therapeutic understudies felt that cooperation in examination exercises was likely useful to their training, just 44% felt that research will assume a critical part in their future profession, and just 38% concurred that additional time ought to be put aside in medical school to encourage more research experience (18). In our study, the greater part trusted that research was critical in the medical field (97.1%, 167/172) and a boosting element for their professions, yet just 55.3% (88/159) partook in exploration amid medical school[19].

In the Canadian study, absence of time was a noteworthy hindrance to seeking after research amid medicinal school as just 31% of all respondents felt there was satisfactory designated time for examination tries (20). Moreover, just 15% of respondents felt that there was adequate preparing in research strategy in medical school, and just 25% concurred that there was sufficient preparing in the basic examination of logical writing[21]. Another saw obstruction to support in research was the trouble in accomplishing an research mentor; just 44% of respondents concurred that it was generally simple to discover an research coach[22]. The boundaries to taking an interest in research in our study included absence of experts (84.7%, 143/169), absence of instructional classes (88.8%, 151/170), absence of time (72.3%, 123/172) and absence of funds (54.1%, 92/170).

While in our studies (153/400, 38.3%) said they have curriculum overload, (100/400,25%) had lack of exposure, (76/400,19%) it is due to financial issues and lack of funding, (169/400,42.2%) lack time to

carry out research. In another study done in New Zealand, the study uncovered that, at the season of survey, 25% of University of Auckland undergraduates had taken an interest in some type of extracurricular research exercises.(23) This is equivalent to research support rate—23% to 38% - reported by comparable studies from the United States, Finland andtheNetherlands[24].

CONCLUSION

Our study showed that students were interested in learning and excelling in Research field, both in Medical and Non-medical fields. But the major factors de-motivating the students at Undergraduate level were Unavailability of Researchers to guide them, burdens of curriculum and study patterns, and lack of funds from higher authorities. Students didn't have proper exposure to research, due to which they were unable to understand its importance further in their career.

Recommendations: Students should take keen interest in carrying research. They should be instructed by trained supervisors, and the institute should provide students with proper allotment of funds. Conferences and workshops should be organized to guide them through the whole procedure.

REFERENCE

1. OECD (2002) Frascati Manual: proposed standard practice for surveys on research and experimental development, 6th edition. Retrieved 27 May 2015 from www.oecd.org/sti/frascatimanual.
2. Wyngaarden JB. The clinical investigator as an endangered species. N Engl J Med. 1979;301(23):1254–1259.
3. Goldstein JL, Brown MS. The clinical investigator: bewitched, bothered, and bewildered – but still beloved. J Clin Invest. 1997;99(12):2803–2812.
4. Khan H, Khawaja MR, Waheed A, Rauf MA, Fatmi Z. Knowledge and attitudes about health research amongst a group of Pakistani medical students. BMC Med Educ. 2006;6:54.
5. Khan H, Taqui AM, Khawaja MR, Fatmi Z. Problem-based versus conventional curricula: influence on knowledge and attitudes of medical students towards health research. PLoS One. 2007;2(7):e632.
6. Rosenberg LE. The physician-scientist: an essential – and fragile – link in the medical research chain. J Clin Invest. 1999;103(12):1621–1626.
7. Campbell EG, Weissman JS, Moy E, Blumenthal D. Status of clinical research in academic health centers: views from the research leadership. JAMA. 2001;286(7):800–806.
8. Mokry J, Sevecova D, Sulaj M. Student scientific activities at Jessenius Faculty of Medicine, Comenius University in Martin – current state and its future. BratislLekListy. 2004;105(1):25–29.
9. Ley TJ, Rosenberg LE. The physician-scientist career pipeline in 2005: build it, and they will come.JAMA. 2005;294(11):1343–1351.
10. Mostafa SR, Khashab SK, Fouaad AS, Abdel Baky MA, Waly AM. Engaging undergraduate medical students in health research: students' perceptions and attitudes, and evaluation of a training workshop on research methodology. J Egypt Public Health Assoc. 2006;81(1–2):99–118.
11. Mokry J, Mokra D. Opinions of medical students on the pre-graduate scientific activities – how to improve the situation? Biomed Pap Med FacUnivPalacky Olomouc Czech Repub. 2007;151(1):147–149.
12. de Oliveira NA, Luz MR, Saraiva RM, Alves LA. Student views of research training programmes in medical schools. Med Educ. 2011;45(7):748–755.
13. Salgueira A, Costa P, Gonçalves M, et al. Individual characteristics and student's engagement in scientific research: a cross-sectional study. BMC Med Educ. 2012;12:95.
14. Zier K, Stagnaro-Green A. A multifaceted program to encourage medical students' research. Acad Med.2001;76(7):743–747.
15. Kassebaum DG, Szenas PL, Ruffin AL, Masters DR. The research career interests of graduating medical students. Acad Med. 1995;70(9):848–852.
16. College of Physicians & Surgeons Pakistan, Karachi. (Online) 2010 (Cited 2010 May). Available fromURL:http://www.cpsp.edu.pk/index.php?code=NDB8TGVmdHxkaXNzZXJ0YXRpbnMucGhwfDA=.
17. Shamim MS, Shamim MS. Research and publications: where do we stand? J Pak Med Assoc 2009; 59: 62-4.
18. PMDC. Offical Website of Pakistan Medical and Dental Council. Islamabad 2010. (Online) 2010 (Cited 2010 January). Available from URL: http://dev.plexushosting.com/PMDC/Guidelines/tabid/102/Default.aspx.
19. HEC. Official website of Higher Edcuation Commission Pakistan. Islamabad 2010. (Online) 2010 (Cited 2010 January). Available from URL: only submission to CPSP.
20. Aslam F, Qayyum MA. Catastrophic failures of public health. Lancet 2004; 363: 1553.
21. J. Bickel, T.E. Morgan Research opportunities for medical students: an approach to the physician-investigator shortage
22. F.L. Brancati, L.A. Mead, D.M. Levine, D. Martin, S. Margolis, M.J. Klag. Early predictors of career achievement in academic medicine JAMA, 267 (10) (1992), pp. 1372–1376
23. S. Chaturvedi, O.P. Aggarwal Training interns in population-based research: learners' feedback from 13 consecutive batches from a medical school in India Med. Educ., 35 (6) (2001), pp. 585–589
24. C. Cursiefen, A. Altunbas Contribution of medical student research to the Medline-indexed publications of a German medical faculty Med. Educ., 32 (4) (1998), pp. 439–440.