



Original Article

Areas of Research Needs in Student of Optometry in Pakistan.

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Purpose: The main objectives of this study were to assess the areas of research needs and interest of students of optometry and to enlist the various activities undertaken by different institutes offering optometry program in Pakistan.

Method: A descriptive cross sectional study with the help of stratified random sampling was conducted in 100 randomly selected students studying in different institutes of Pakistan. The study consisted of both male and female students of different age groups were asked to fill a questionnaire to find out the areas of research needs in students of optometry in Pakistan. The selection of students was so done that they should be aware of flaws and benefits of research. Informed consent was taken from every student.

Results: The result conducted from the questionnaire and statistical method showed that among 100 respondents 35 were male and 65 were females. Results affirmed that students showed interest in research participation and they believe that conduction of research should be made compulsory at graduation level. Of 29% students having experience of writing research article and there were only 37% students who read journals. Students showed more interest in clinical work and majority of the students reported that the role of supervisor, inadequate providence of tools and already overburdened curriculum cease their interest.

Conclusion: It is concluded from this research that Students showed positive response in the participation of research and utilize the facilities provided by their respective institutes but there are some obstructions which hinder their motivation. The main factors like inadequate role of their supervisors, already over burden curriculum, lack of the habit of reading journals and practice to write article, inadequate tools provided by their institutes cease their interest in research participation.

Keywords: Areas, Research, Needs, Students, Optometry, Pakistan.

Introduction:

Research is defined as; "...a detailed process of gathering information to increase the stock of knowledge, tradition and culture to discover and understand new information that would initiate, modify or terminate present understanding."¹ It is an academic activity which is used to establish facts, helps to create awareness, twist existing theories and improve treatment. According to the definition of World Council of Optometry (WCO) "Optometry is a health care line of work that is educated and regulated (licensed/registered) and optometrists are the primary health care practitioners of the eye and visual system who provide comprehensive eye and vision care which includes refraction and dispensing, detection or diagnosis and management of disease in the eye and the rehabilitation of condition of visual system"^{2,3} Optometry is an emerging discipline in Pakistan with several institutes offering graduate programs in Vision Sciences or Optometry. These institutes offer graduate program during which students gain proficiency in their field.

Optometry education is a young discipline having its roots in optics rather than medicine. Despite the late start the quality of optometry research is high, evolving with progressive understanding. Research conducted by the optometry institutions circumscribes a diverse range of topics including Basic, Applied and Clinical research in the science of vision.⁴

It is crucial to spark the interest of students who know very little about the qualitative research and it's prospective. Students should be encouraged to learn specific research procedures. To improve student's confident, awareness and proficiencies; the completion of an independent research project should be made compulsory for graduation in optometry.⁵ To propagate research conduction students in developed countries are encouraged and granted with scholarships. Various research methodologies are adopted in the very beginning of the course and institutes facilitate in every positive aspect during research projects. As a result students in developed countries are catching up with the high quality of research.⁵

To establish an effective and useful academic curriculum related to their profession, interests and perception of the students regarding their field is crucial to be determined. Looking at the current state the importance of early research has been determined. Research is rewarding, professionally and academically. Student tends to show interest that is ceased by the lack of opportunities.⁶

Research plays a vital role at an undergraduate level. Epidemiology, Biostatistics and Survey Methodology classes educated in the curriculum are constructive. Such courses should be encouraged by involving the students in multiple research projects during their undergraduate years.⁷

Medical students show positive attitude towards scientific methods while the factors leading to the emergence of interest are unidentified.⁸

Research courses should be made an essential element of the medical training to explore new facts.⁹ Practicing research at graduation level improves the abilities, knowledge and skills of undergraduates and enhance the abilities to evaluate their strengths and weaknesses.¹⁰ It is also important for medical students to understand the role of research and submitting articles for publication.¹¹

Materials and Method:

Ethical clearance to conduct the study was obtained from the College of Ophthalmology And Allied Vision Sciences, King Edward Medical University Lahore. A descriptive cross sectional study was utilized. The size of the obtained sample was 100. The demographic details were also noted which included age, gender, year of study, college and place of study. The students participated in this study were from different states in Pakistan involved currently as well as in past in research regarding optometry field. Students not willing to participate in the study were excluded. Ethical sanction and informed consent was also obtained. Information was gathered by circulating self guided questionnaire in the form of hard copy and via mailing among students of optometry studying in different institutes of Pakistan.

Data was captured using SPSS version 20 and Microsoft Excel 2010. The areas of research needs and barriers which cease the interest of students in research conduction were derived from data. To maintain confidentiality the use of code rather than the respondents name was employed.

Results:

Table 1: Province-wise Distribution.

Province	Frequency	Percent
Punjab	74	74
Sindh	9	9
KPK	17	17
Total	100	100

Table 2: Institution-wise distribution

Institution	Frequency	Percent
COAVS, Lahore	20	20
PICO, Peshawar	17	17
Madina University Faisalabad	11	11
Isra School Karachi	9	9
Isra School Islamabad	5	5
University of Lahore	15	15
Imperial College Lahore	13	13
Alshifa Institute, Rawalpindi	3	3
Rawalpindi Medical & Dental College	5	5
Fatima Memorial Lahore	2	2
Total	100	100

Table 3: Program Distribution

Program	Frequency	Percent
B.Sc.	80	80
M. Phil	20	20
Total	100	100

Table 4: Students' Interest

Student's Interest	Frequency	Percent
Basic	9	9
Applied	12	12
Clinical	77	77
None	2	2
Total	100	100

Table 5: Aptitude Questions

VARIABLES	YES(%)	NO(%)
Joined this field by choice?	51	49
Feel contented in this profession?	67	33
Written any article before?	29	71
Do you read medical journals?	37	63
Availability of journals in respected areas?	59	41
Intend to pursue research after graduation?	42	58

Table 6: Other Questions

VARIABLES	Response Percentage			
	Agree	Strongly agree	Disagree	Strongly disagree
Role of Research is important in Medical	45	42	11	02
Research Participation be made Compulsory at Graduation Level	33	33	27	07
Conducting research has positive Impact	33	44	20	03
Article depicts the crux of research	38	34	24	04
Students do research work willingly	24	29	37	10
Undertaken research increases burden	31	49	17	03
Adequate role of supervisor during project	21	25	45	09
Adequate facilities provided by respected institute	31	26	38	05
Enough provision of tools by institute	37	27	34	02
Feel nervous and stressed during research project	33	46	20	01
Still there is room of betterment	32	53	12	03

Discussion:

A survey among the students of optometry studying in various institutes of Pakistan offering Optometry program gave us a glimpse of how much they are aware of research conduction in their curriculum. It also guided us by means of questionnaire that how many institutes in different provinces of Pakistan are catering students from different areas to offer graduation in Optometry. It was necessary to undergo a survey like this so that we can assess the areas of research needs in students of optometry in Pakistan at undergraduate level. The main purpose of this study was to find out the response of students regarding the conduction of research at undergraduate level, to highlight the areas with deficiencies to improve the research curriculum and their interest. The analysis shows that there are various institutes in Punjab

offering optometry as compare to other provinces. This indicates that optometry has become an emerging discipline in Pakistan. However there is still a need to establish such institutes in other provinces of Pakistan to improve eye health care system in those areas.

All the above mentioned results depict that students had fairly a good level of research interest. Attitude of students regarding conduction of research at undergraduate level was assessed and they show positive response in conduction of research at undergraduate level in medical field and it is concluded that it has a positive impact among students. Research conduction at undergraduate level should be made compulsory. While a study conducted by Frishman WH also reflects that practicing research at graduation level increases abilities and skills of the students but some of the students are in favor that research conduction shouldn't be made compulsory for undergraduates.¹⁰

A question was asked from all the 100 students that have they any experience of writing research article before? So we concluded that very few of them of 29% had experience of writing research articles and majority of them had never written any article. It means that most of them had no experience of how to write research articles. This survey also depicts that students of Optometry had more interest in clinical work rather than Basic or Applied. Williams K. J and Hill C. P in their study also suggested that students choose to involve in clinical program instead of conducting basic research.

To determine the student's response regarding the habit of reading medical journals it is concluded that there is a small proportion of students (about 37 out of 100 respondents) who read journals while on the other hand among 59% of the students know about the availability of journals in their respected areas. Another study, conducted in past years comprising Pakistani students, also supported this result, and which affirmed that there were only 20% students who read journal monthly.¹³

It was essential to highlight the response of students regarding the facilities provided by their institutes. Different questions were asked in the questionnaire to assess the response of the students which depicts that majority of the students respond that facilities like research tools, lectures and surroundings are helpful but some inadequate. Improvements should be taken to develop their interest and improve their abilities and skills. To establish research courses and instructing research methodologies students should be facilitated.¹⁴

In order to estimate the student's participation in research few questions were asked. By analyzing it is clear that most of the students participate in research willingly but the lack of opportunities, problems faced by students and already over curriculum decreased their participation. Aslam F et al in their study also recommended that to develop interest for

research conduction in students and minimize the hindrances faced by students during their project. British Improvements should be added in our academic curriculum.¹³

Role of Supervisor is an important key to develop interest and encourage students in participation. In this survey students were asked about the support and role of their respective supervisors during their research project. It was clear from the results that most of the students were not satisfied by the attitude of their supervisor. This predicts that inadequate mentorship may discourage the students from involvement in research project and students tend to cease their projects. In a recent study it was also found out that the main obstruction in research participation was unsupportive behavior of the Supervisors.¹⁵ A valuable guidance is essential for analyzing research projects and their implementation.¹⁶ Majority of the students reported in the survey that they feel nervousness and stress while performing their research work as a result this cease the interest in participation. This concluded that already over curriculum and unsupportive environment are the main factors. There is a great need of advancement in the academic curriculum to release their stress and spark their motivation to participate in the research project. There is still a room of betterment to develop and improve the research methodologies according to the international level of research conduction.

Last question in this survey asked from the students was either they intend to pursue research project after their graduation or not, majority of the students respond that they will not. A study developed by Tosoo A et al also testified in their study that only 11% of the respondents expected to participate in research and 24% were believed to pursue research after their commencement.⁵

I concluded in the light of above results and discussion that students of Optometry in Pakistan have interest in research participation but due to overburdened curriculum and inadequate role of their mentors they feel stressed as a result which cease the involvement of participation in research projects.

Conclusion:

It is concluded from this research that Students showed positive response in the participation of research and utilize the facilities provided by their respective institutes but there are some obstructions which hinder their motivation. The main factors like inadequate role of their supervisors, already over burdened curriculum, lack of the habit of reading journals and practice to write article, inadequate tools provided by their respective institutes cease their interest in research participation.

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