Research Experience in the Department of Anatomy: A Departmental Analysis

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Abstract

Background Search and research provides the basic feed for academic knowledge across all academic departments. Research provides depth in the knowledge of a given area of exploration. One novel and interesting idea of an individual, or a team of experts, in the department and healthy, extended support from the institute can change and answer the stream of mysteries in their own field of expertise.

Aim We intend to analyze the research experience of every individual in the department of anatomy among themselves, with the department and the institute, for further improvement of research in anatomy.

Methodology 13 participants comprising 9 faculty members and 4 postgraduates were requested to answer the questionnaire composed of three sections, with questions under headings such as individual, department, and institute.

Results and Conclusion Finally, analyses were made on the responses obtained and recommendations were submitted before the department Head for necessary interventions in order to improve the research atmosphere and research outcomes in the department of anatomy.

Introduction

Research, “to go about seeking” in French, forms the backbone of the development of every academic department in the world. Research helps us in creating a new future and exploring the past. Research has gone through various paths from crude methods to refined ethical methods. Research should be headed both in quantitative as well as qualitative ways.1-3 Every individual research scientist has his own ideas toward research. Each department has its own principle for research activities and motivation. Every institute has prescribed ethics, Institutional Ethics Committee (IEC) code, ideologies, and pride for promoting research. IEC forms a preface as well as writes a foreword for every research paper in the current scientific era. IEC proves mandatory to avoid any professional breach in the ethical formulas.2-20 So, knowledge and exposure toward ethics is important. In this study, each faculty and postgraduate’s research experience with the department and the IEC institute has been analyzed and evaluated. The combination of individual, department, and institute toward research, if it results in an ultimate positive outcome, will not only improve the overall academic knowledge but also aid the field in flourishing with advancements.1-10 In this study, we have travelled with the aim of assessing the research experience in the department of anatomy, PSG IMS & R, by a questionnaire method among 13 faculties and 4 postgraduates and suggested recommendations for further improving the research in anatomy.

Participants and Methodology

In our anatomy department of PSG IMS&R, we have recruited the existing 10 faculty members and seven postgraduates. The criterion for the study sample is such that they should possess research experience in anatomy. By this criterion, we excluded three first-year postgraduates, who are yet to start their anatomical research journey. Faculty members and postgraduates on medical leave during the study period of 15 days were also excluded from the study. One faculty

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member who was on medical leave was excluded by this way. By these selection methods, the study sample reached the size of 13, which included nine faculty members and four postgraduates. We requested them to answer the questionnaire regarding their research experience in the department of anatomy. The questionnaire was sectioned as individual, department, and institute; analyses were made on each section and recommendations were submitted to the Head of the department of anatomy. Due ethical approval was obtained and study was conducted in the 2016/17 academic year.

**Questionnaire and Results**

**Individual**
1) Whether research is needed for anatomy?  
100% YES  
2) Have you attended the research methodology workshops?  
92% YES 8% NO  
3) Mention the type of study made in your research in the last 3 years?  
Observational (OBS) 85%  
Interventional (INT) 15%  
Both 15%  
4) What type of dissemination of the result was made in the last 3 years?  
Paper, poster, and publications.  
5) Based on your experience in research, which area of anatomy is to be explored more?  
Details discussed in analysis.

**Department**
1) Does the department facilitate research with adequate infrastructure?  
85% YES 15% NO  
2) Whether there is intradepartmental cooperation for research to be carried out?  
92% YES 8% NO  
3) Do you have any suggestion to improve the individual–department research relation? If yes, please mention.  
Details discussed in analysis.

**Institute**
1) Does the institute facilitate research with adequate infrastructure?  
92% YES 8% NO  
2) Does the institute facilitate research financially?  
92% YES 8% NO  
3) How many study proposals were made by you to IEC in the last 3 years?  
31.  
4) How many proposals had resubmission? Mention the maximum number? (in the last 3 years.)  
4.  
5) Mention the reasons for resubmission?  
Details discussed in analysis.

6) How many proposals got approved in the last 3 years? 31.  
7) How many proposals got rejected? If so, reason out? (in the last three years.)  
Nil.  
8) Whether there is interdepartment cooperation for research in your institute?  
92% YES 8% NO  
9) Do you have any suggestion to improve the individual–department–institute research relation? If yes, please mention.  
Details discussed in analysis.

**Data Analysis, Discussion, and Recommendations**

**Individual**
1. 100% participants felt that research is indispensable for anatomy (►Graph 1). The inclination to research was found to be statistically significant on student t-test analysis of SPSS software ($p < 0.05$).
2. Research methodology workshops had been attended by 12 (92%) (►Graph 2). The MCI is mandating that every teaching faculty should attend research methodology workshops. The statistical significance of faculty participation was found to be statistically significant on student $t$-test analysis of SPSS software ($p < 0.05$).
3. Observational studies were predominant (►Graph 3). The type of study was analyzed to infer the head; observational outnumbered interventional studies statistically (student $t$-test, $p < 0.05$). The studies have to be balanced on both observation and intervention, which was the decision made in the departmental meeting.
4. Paper presentations (77%) (►Graph 4) were more on comparing posters and publications. Our department Head suggested that all the postgraduates and faculties must balance their poster and paper presentations equally. Yearly publications have to be reported, so publications were made and documented to the department.

[Graph 1: Necessity of research.]
and institute. On analyzing, no statistical significance was made out between paper, poster, and publications. However, the frequency distribution shows every individual is active in one form of research.

5. Neuroanatomy and histology were the two branches of anatomy which ranked the top area of interests for exploration (►Graph 5). Neuroanatomy studies were highly significantly (chi square test, $p < 0.05$) performed than other studies. Equal distribution of topics must be implemented in research was decided in the departmental meeting.

**Department**

1. Eleven (85%) participants approved that adequate infrastructure is there in the department for research, which was statistically significant result (student $t$-test, $p < 0.05$), whereas two denied it (►Graph 6). The denial was based on the availability of cell biology and embryological laboratories, which were brought to the notice of the head for necessary actions.

2. Twelve (92%) participants felt that there is good intradepartmental cooperation for research (student $t$-test, statistically significant $p < 0.05$), whereas one denied it (►Graph 7).

3. Many of the participants felt that the existing individual and department relation is good and came with suggestions for further improvements such as increasing the cadaver procurements to providing a space for cell biology and genetics laboratory in order to conduct CME with guest lectures and carry out research workshops by eminent resource persons in regular intervals to increase teamwork and appropriate motivation for the individuals as needed (►Graph 8).

**Institute**

1. Twelve (92%) participants felt that adequate infrastructure is present for anatomy research in the institute (►Graph 9). The result was found to be statistically
significant on student $t$-test analysis of SPSS software ($p < 0.05$).

2. Twelve (92%) participants felt there is full financial support for their research (►Graph 10). The result was found to be statistically significant on student $t$-test analysis of SPSS software ($p < 0.05$).

3 to 7. Out of 31 submissions made by the department of anatomy for ethics approval, all the 31 got approved with four resubmissions (►Graph 11). The reasons for resubmissions were sample size justification, reference style correction, photograph of the case report clarification, consent form in native language, and inclusion of ethics committee details in consent.

8. Twelve (92%) participants felt there is interdepartmental cooperation in the institute to carry out research (►Graph 12). All the parallel departments cordially helped with resources and expert opinions. The result was found to be statistically significant on student $t$-test analysis of SPSS software ($p < 0.05$).

9. Majority of the participants were satisfied with existing system of research relation between the institute and the research scientist in the department of anatomy. For further improvement, the recommendations were to increase the source for cross reference materials, give exposure to electron microscopic studies in adjunct with advance sciences and engineering, and motivate in the recommended areas of interest for exploration(►Graph 13).

**Conclusion**

Thus, the research views of the individual toward themselves, their department, and institute were analyzed at the grass root level in the department of anatomy. Affirmatively, 100% of the
participants felt that the research is needed for anatomy; 92% have attended the research methodology workshops. For, 77% paper presentation was the commonest mode of dissemination of the result in the department. Neuroanatomy and histology were the commonest areas of interest for exploration among the participants. More than 85% were satisfied with the departmental research relation and more than 90% were satisfied with the institutional relation. Further suggestions were discussed and recommendations were placed before the Head of the Department for interrogating and implementing the necessary and important requirements for further improvement of research in the department of anatomy. We also look forward to a wider assessment of research experience in our department with finer and refined questionnaires, thereby helping in improving the research in our department. In a larger view, a meta-analysis can be conducted by anatomists in Tamil Nadu, seeking research advancements ongoing in our field.

Conflict of Interest
Nil.

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