

Analysis of Knowledge of Anatomy Among Final Year Medical Students



Medical Science

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ABSTRACT

AIM – The aim of the present study is to analyze the knowledge of anatomy among final year medical student and status of anatomy as a subject.

METHODOLOGY- The study group includes 136 final year medical students. A surprise anatomy quiz was conducted for them. The quiz constitutes 20 MCQs and sections include clinical anatomy, surgical anatomy, developmental anatomy, surface anatomy and micro anatomy. The time duration was 10 minutes. After the completion of quiz a short survey was conducted, which includes five statements. The statements of survey were framed to understand the status of anatomy as a subject among students and awareness of the scope of research. Later a reinforcement classes were conducted to refresh the knowledge of anatomy and a post test was conducted with similar question pattern and different set of questions in similar sections.

RESULTS - The post test mark scored by the student presented a significant difference than the pre test with p value <0.0001. Similarly the pass percentage in post test is 82% which differed significantly with p value <0.0001.

CONCLUSION- The results of the survey suggested that anatomy classes should be reinforced in the clinical years. The teaching methodology and the curriculum should be in such a way that the knowledge of anatomy should retain in the memory of students even in the final year.

INTRODUCTION

The knowledge of anatomy is very essential for any medical professionals. Anatomy serves as a back bone of clinicians. Without the knowledge of anatomy no physician can have a successful career. Anatomy is a subject that deals with Gross and Micro-structure of human body, embryology and genetics. The various fields of application of anatomy include clinical anatomy, surface anatomy, radiological anatomy, surgical anatomy, developmental anatomy, anthropometry, forensic anatomy, comparative anatomy, genetics and stem cell. There is deficiency of anatomist in all medical colleges both for undergraduate and post graduate students, which reflects the lack of interest in the subject as a career¹. Anatomy is a vast subject that can have its applications in various fields. Teaching anatomy by itself is an art. Students feel anatomy as a hard subject to remember and maximum fail to have application oriented knowledge. Only few students apply what they learn as a subject. Anatomy is taught as a subject in the first year of their curriculum by the time they enter in to their clinical subjects and final year the knowledge of anatomy that retain in them seemed to be very less. Students fail impart the knowledge gained in the first year. The awareness about the scope of in the field of research is very less. The impression of anatomy as a fact has to be changed. Anatomy is a fact that can have its application in various fields. The knowledge of anatomy, need to be reinforced throughout their clinical subjects which can help to open the window of research in anatomy. The present study has taken an attempt to analyze this concept. The purpose of the study is to analyze the knowledge that retain in final year medical students and the impression of anatomy as a subject. The results of the study may help us to modify the teaching methodology and the curriculum of anatomy as a subject.

METHODOLOGY

The study was conducted among the final year medical students. Before commencing the study details of the study procedure was explained to the participants and their willingness was obtained through informed consent. The study group includes 136 final year medical students. They were grouped in a lecture hall and given a surprise anatomy quiz. The quiz constitutes 20 MCQs and sections include clinical anatomy, surgical anatomy, developmental anatomy, surface anatomy and micro anatomy. The time duration is 10 minutes. After the completion of quiz a short survey was conducted, which includes five statements.

The statements of survey were framed to understand the status of anatomy as a subject among students. Later a reinforcement classes were conducted to refresh the knowledge of anatomy. It was scheduled to be conducted in regular basis 1hour/day for a period of one month. The refreshment classes imparted active teaching methods, group discussion and problem solving. The refreshment course was being conducted in such a way that the students were made to interact and participate in the sessions. After the completion of the refreshment course, a post test was being conducted with similar question pattern and different set of questions in similar sections. The data were analyzed for its significance using suitable statistical procedures.

DATA ANALYSIS AND RESULTS

Table – 1- Analysis of marks scored

Group	Pre-test	Post-test
N	136	136
Mean±SD	10.58±2.0639	14.4±1.9227
SEM	1.176079	0.1648770
P value	<0.0001	
Level of significance	Extremely statistically significant	

Table-2-Analysis of pass percentage

Groups	N / % of students passed	N / % of students failed
Pre-test	54/39.7	82/60
Post –test	112/82.3	24/18
P value	<0.0001	
Level of significance	Extremely statistically significant	

The total mark assigned for MCQ was 20. The average mark scored by the students in pre- test was 10.58, and the mode was 13, the mode was considered as accepted standard and accordingly the pass percentage was calculated. The pass percentage in pre-test was 39.7%. The average mark scored by the students in post-test was 14.4, and the mode was 16, accordingly the post-test pass percentage was 60%. Chi square was used to analyze the pass percentage and student t' test to analyze the mark scored in pre-test and post-test.

Table - 3- Analysis of Survey - N=136

SI	Questions	Strongly Agree	Agree	Disagree	Strongly Disagree
		N / %	N/%	N / %	N/%
1	Anatomy taught in pre-clinical years is sufficient	19/14	36/26	72/53	19/14
2	Teaching methodology of anatomy should be application oriented	77/57	34/25	25/18	-
3	Anatomy should be reinforced in clinical subjects	69/50	29/21	36/26	2/1
4	Scope of research is wide in anatomy	8/6	34/25	44/32	50/36
5	Anatomy as a career	11/8	45/33	48/35	32/23

The outcome measure of survey was rated according to the percentage of students fall in to particular category namely Strongly Agree, Agree, Disagree, and Strongly Disagree. The results were tabulated.

DISCUSSION

The results of the post- test presented significant difference with p value <0.0001 in mark scored by the student and the pass percentage with p value <0.0001 when compared to the pre test values. It suggests that the reinforcement classes helped a lot to refresh the student's knowledge in anatomy. The results of the survey presented 53% of students strongly disagreed that anatomy taught in preclinical years is sufficient, and only 14% strongly agreed the statement. 57% of the students strongly agreed that teaching methodology should be application oriented and none of them disagree the statement. 50% of students strongly agree that the anatomy should be reinforced in clinical subjects and only 1% of subjects strongly disagree the statement. In field of research the awareness about the scope of research is suggested to be very poor based on the results of the study. Only 6% of students strongly agree and 36% strongly disagree the statement. 33% of students agree anatomy as a career and 35% disagree the statement, 23% strongly disagree and only 8% strongly agree the statement which reflects that the student do not prefer anatomy as a career. It shows lack of interest on subject or difficulty in learning the subject. This can to be changed by making the subject interest and imparting different teaching methodologies in anatomy class room to make the subject a lively one. JA I Amiri, 2015² reported that majority of responders to survey felt anatomy should be reinforced in anatomy during their clinical years. Very less percentage of students chooses anatomy as their career. Strkalj.G³, 2011 reported that high hours devoted to anatomy and imparting anatomy knowledge in clinical skills in senior clinical years increased the retention of anatomy knowledge. Bhangu A⁴ reported the modern anatomy curriculum should focus in clinical correlation and clinical image interpretation. Vertical Integration of anatomy teaching thought the full medical course may be useful. Anand MK⁵ reported only very few compared teaching anatomy as favorable as treating a patient.

In India lack of job opportunities and adequate research facilities limits the uptake of anatomy as a career. Thus it can be suggested that the anatomy should be reinforced in clinical years, teaching methodology should be application oriented and active teaching learning method need to be imparted for knowledge retention.

CONCLUSION

The Anatomy is a subject that has to be taught and learn with interest. The incorporation of active teaching methodologies and modification of the curriculum as application oriented may help a lot for the students to retain their knowledge in anatomy even in their clinical years. Periodical reinforcement courses in application oriented methodology may help the student shine in their future. Anatomy is a subject that has to be retained in the memory till the last day of our practice; it is not a subject that gets over by first year of curriculum.

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