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PROBLEMS AND DIFFICULTIES ENCOUNTERED BY FIRST YEAR MBBS STUDENTS IN LEARNING MEDICAL ANATOMY AND SOME OF ITS SOLUTIONS- A FEEDBACK STUDY.

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ABSTRACT

The first year MBBS students as they walk into the medical colleges face multiple challenges in the first few months of their course. The subject of medical Anatomy and its subdivisions forms a vast portion of their overall curriculum in first year MBBS with maximum teaching hours. Students face disinterest, lack of understanding, inability to recall andare many a times unable to cope up with the demand of this subject. This study was undertaken to address the problems of students of 1st MBBS in learning Anatomy, methods to rectify these problems and assessment methods and interval as preferred by students. The objectives of the study were to detect the problems faced by students of MBBS first year in learning Anatomy and view of students to proposed methods of rectification. Toanalyze the students view regarding assessment methods and interval in Anatomy. A study was conducted on 132 MBBS studentsstudying in Saveetha Medical College Chennai on completion of firstMBBS exams by means of structured questionnaire distributed to them. Students were exposed to regular teaching methods   as suggested by Medical Council Of India Regulations in department of Anatomy and feedback of students regarding problems faced in learning Anatomy and their views regarding proposed rectification methods were obtained. The feedback of students on assessment methods and interval was also obtained. The results were analyzed. Students faced problems in learning histology and this was because they were unable to identify slides. They also faced problems in understanding embryology. The assessment methods preferred by them was written test for theory at end of each region. To rectify their problems they felt more active learning methods like quiz, students seminars, and more frequent revisions to be integrated in the curriculum of Anatomy. This study thus evaluates the students' opinion regarding Anatomy and its subdivisions. Thus it   calls for a better planning of the curriculum, assessment techniques, revision schedule, etc to bring about a more effective and apprehensive teaching and learning of Anatomy.

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INTRODUCTION

The first MBBS students as they walk into the medical colleges are exposed to a totally new environment of teaching and learning. The subject of medical ANATOMY which forms a major part of the first year curriculum has to be dealt with at this point of time when the students has to struggle in this new scenario.At this point of time, it calls for addressing certain important values and mannerisms in the students and the foremost are maintaining utmost professionalism and confidentiality in dealing with cadavers.[1] It is not only the sole responsibility of Anatomist to impart skill and knowledge to the students but also calls for the development of right attitude in dealing with their problems in a professional way.[2]The role of skilled Anatomy demonstrator has to stand the challenges of the ever changing medical curriculum to make the students not only compatible to face the clinics but also to develop right mannerisms in them.[3]Curriculum review and teaching methodologies evaluation in Anatomy are normally carried out by the university heads senior faculty members and also by MCI (Medical Council of India). There is a need in this hour that we do take the views and regular feedback at appropriate intervals at least at the completion of each anatomical region of the students during their first year tenure and after completing first year into consideration. The students view cannot be totally overlooked and this can be extremely useful to bring about innovations in teaching and learning methodologies of clinical Anatomy.[4]Anatomy as a subject in first MBBScurriculum has vast portions and many subdivisions which needs the student to know in detail about Gross Anatomy, Histology, Osteology, Embryology, And to certain extent Surface Anatomy, Radiological Anatomy also. Among these in our university Gross Anatomy, and Histology deserves special mention. There are innumerable adversities faced by the new entrants in these subdivisions of Anatomy as they walk into the medical college. There is no doubt that demonstration and discussion of cadaveric specimens forms the backbone of teaching and learning of Gross Anatomy.[5] But in recent times there is a scarcity of cadavers and also reduction of course duration of Anatomy in first MBBS which calls for newer and innovative teaching methodologies in Anatomy to impart the required knowledge to the students.The present study was undertaken to detect, analyse and evaluate the problems faced by first year MBBS students to the important subdivisions of Anatomy and the students' viewpoint towards certain proposed methods of solving this issue. Our aim is to detect the problems faced by first year MBBS students to various subdivisions of Anatomy with the help of questionnaire, to analysis of the student's feedback regarding assessment methods and interval and to critically evaluate the students view regarding rectification methods for the problems in learning Anatomy.

Aim &Objectives
- To detect the problems faced by students of MBBS first year in learning Anatomy and view of students to proposed methods of rectification.

- To analyze the students view regarding assessment methods and interval in Anatomy

MATERIAL AND METHODS

The batch of 132 MBBS (2014-15) students were exposed to regular teaching pattern in Anatomy i.e. didactic lecture classes for theory, demonstration of specimen, bones in dissection hall and demonstration of slides in histology laboratory. Lecture classes were conducted primarily in gross Anatomy, Embryology, Histology, in large group with power point presentation. In the dissection hall, a group of 18 students were allocated to each table and demonstration of specimens were carried out. Two quiz programs and 3 programs of student seminar were conducted on the students during the academic year. The study was conducted by providingastructured validated questionnaire to 132 students after they completed their first MBBS exam 2014-15 batch regarding their problems faced towards the main divisions of Anatomy ,their preferred rectification methods and their preferred p evaluation methods and assessment intervals. Students were ensured that confidentiality will be maintained in this study. The above questionnaire which was used were subjected to prior pretests and thus the questionnaire was validated.The content validity was done by 5 experienced senior professors of Anatomy of 3 different randomly chosen institutions and the index was 100%. The face validity was carried on by radom 10 senior MBBS students. The construct validity was done by statistical analysis of all the questions put forward to the students and the Cronbach alpha was 0.72 20 minutes time was given for them to complete the questionnaire. The questions were framed on the experiences of qualified teachers after consulting with faculty of Anatomy from other colleges (2) within the city and suggestions taken in random from senior MBBS students who have passed Anatomy which included about 10 students from 2nd year to final year. Students were asked to tick the methods which they feel will improve their performance and can be a probable solution. The questionnaire wascollected back from the students and the results were statistically analyzed and represented.

RESULTS AND OBSERVATION

This study was conducted in Saveetha Medical College Chennaion 1st YEAR MBBS students of 2014- 15 batch just after they completed their first year MBBS exams. The college has abided by the curriculum of Anatomy as proposed by Medical Council of India. Thus this study just attempts to justify the students view point, attitude and difficulties faced by them in the subject of Medical Anatomy. Two separate questionnaire were given to students. In Fig 1 students were asked to choose the subdivision or subdivisions they had difficulties in learning. The maximum number of ticks were given for Histology which showed the students were not able to cope up and understand histology easily. In the following question certain specific problems with regard to Gross Anatomy was asked in which the point regarding Inability to identify Specimen got maximum importance as a most common problem.Fig-2. Students

also felt Inability to recall is a major problem in Gross Anatomy. Histology formed the major brunt of problems for 2014-15 batch and maximum ticks were given for the point of Inability to identify slidesand students were not confident for the above till the end of the year.Fig-3. In Embryology students felt they were unable to follow the sequence of events and they not able to apply the theory knowledge with the charts and models shown to them.Fig-4 Basic Embryology was taught according to the requirement as proposed by Medical council of India syllabus regulations as weekly 1to 2 hrs of weekly theory classes and demonstration of charts and models during practical hours. On analysis of proposedmethods for rectification Fig 5 the most accepted methods were inculcating quiz, students seminar and written tests at end of eachanatomical region e.g. Head and neck, upper limb, which were followed by giving opportunity for self and group reading and revision of specimens

and histology slides. They preferred embryology to be taught in flow at the beginning of the specific regions in gross to correlate the development with structure. Since they were unable to recall the slides in histology and spotters in gross anatomy they too wanted more revisions and repetition of key points multiple times by teachers. Fig 5. For evaluation of theory knowledge students preferred combination of subjective and objective questions as in Fig 6. A combination of spotters and discussion is preferred by students for evaluation of practical skills as shown in Fig 7. Regarding the interval of assessment, 62% of students preferred assessment at the end of each region as shown in Fig 8. The questionnaire used in this study is attached.Graphical representation of results in percentile was done for this study. Statistical analysis of this study was not recommended as the sample size is small and it also calls for studies in future.
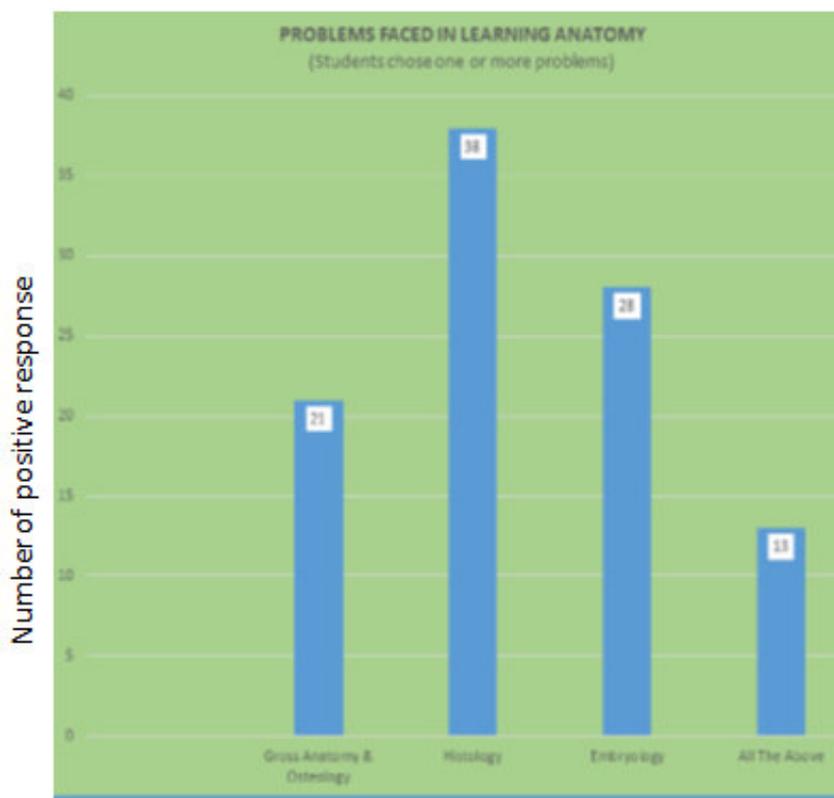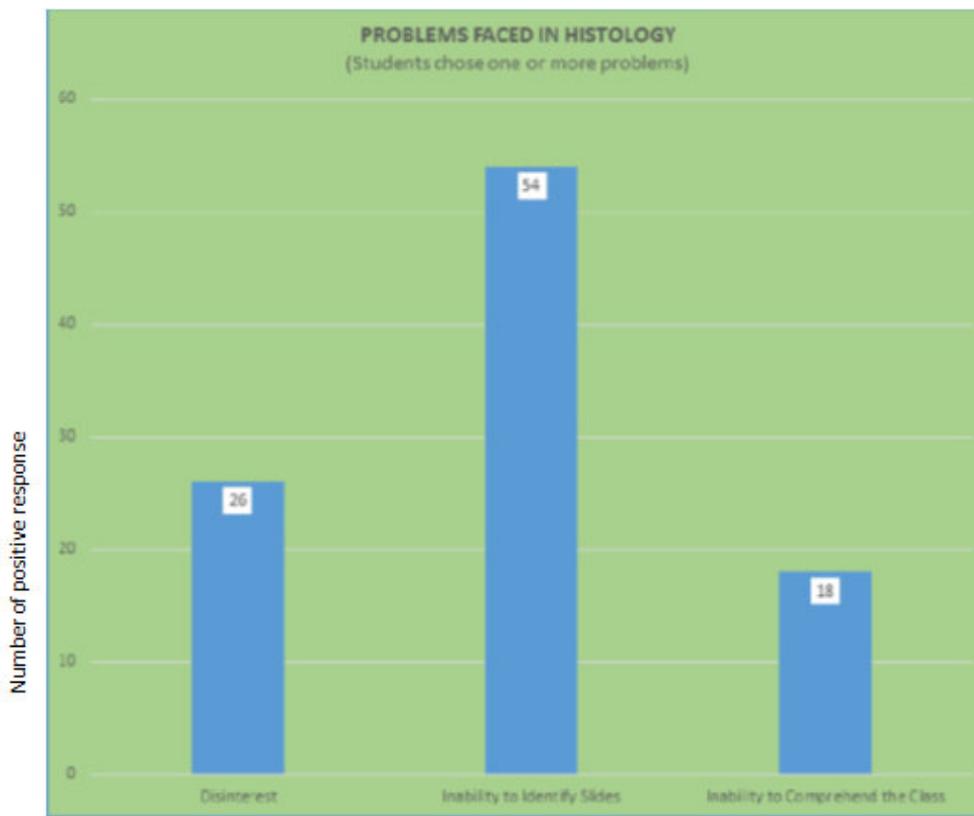

Y axis indicates the number of positive responses

Figure 1
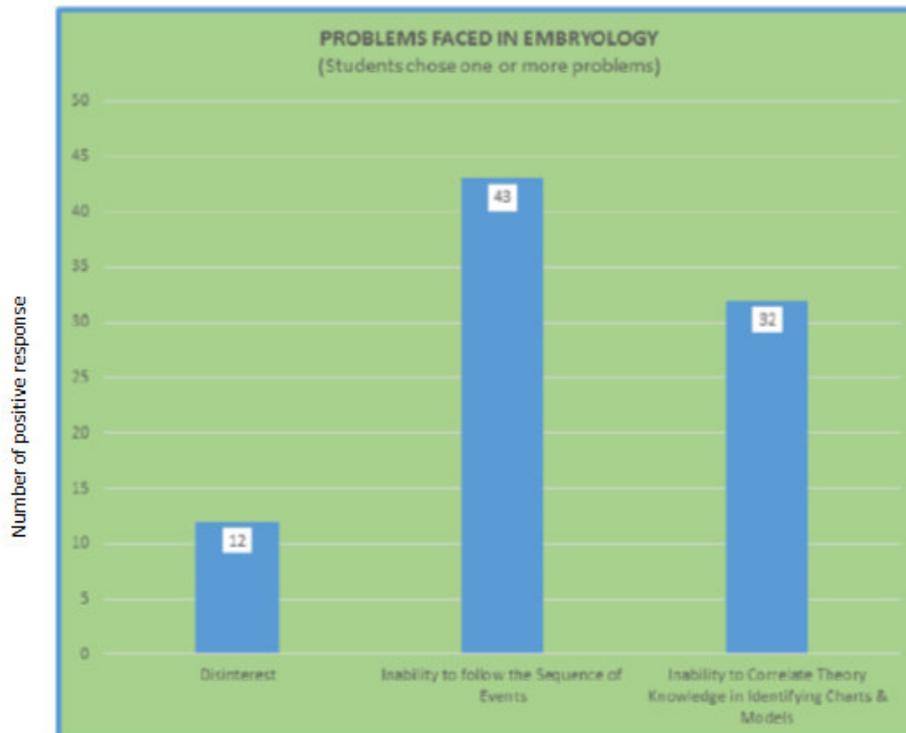*Divisions of anatomy students faced difficulties and %*
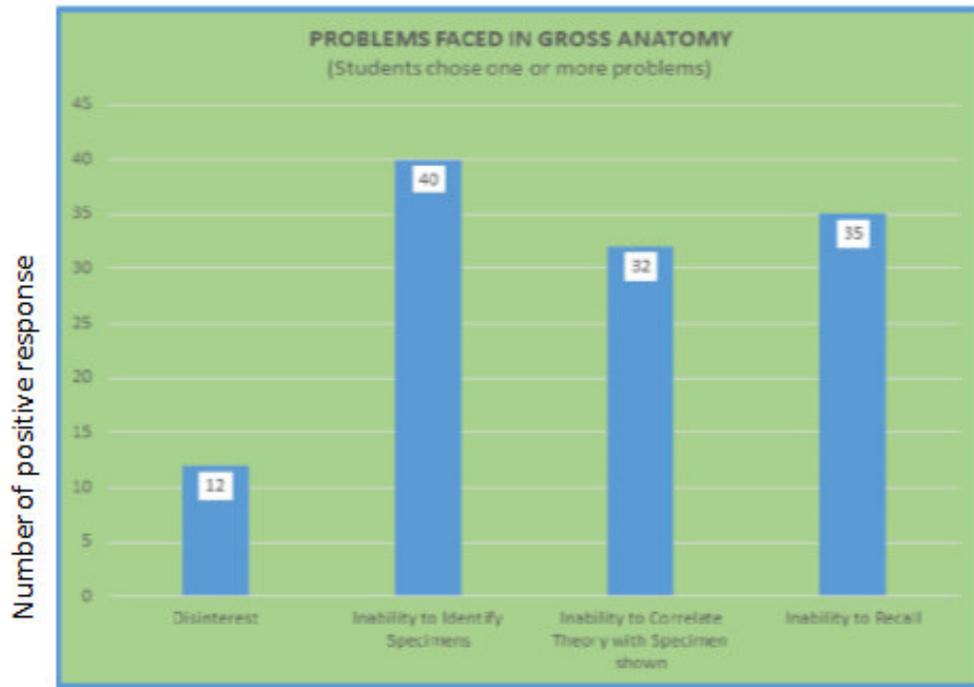
Y axis indicates the number of positive responses

Figure 2
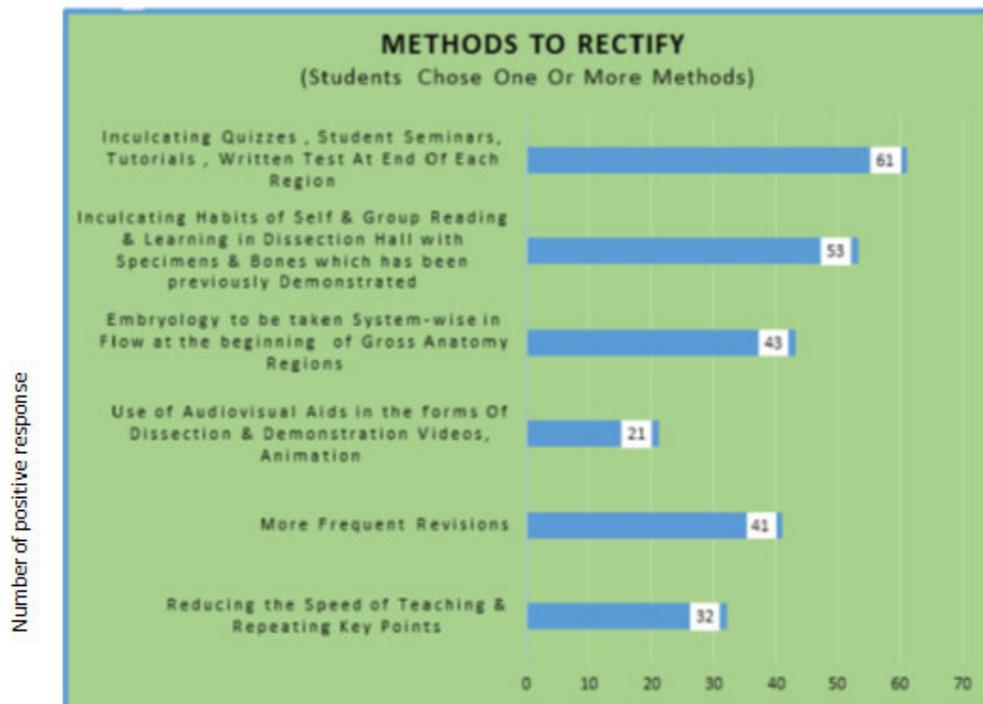*Difficulties faced in gross anatomy and its %*

Y axis indicates the number of positive responses

Figure 3
Difficulties faced in histology by students and its %

Y axis is the number of positive responses towards the specified problems

Figure 4
Difficulties faced in embryogy by students and its %

X axis is the number of responses toward the specified method

Figure 5
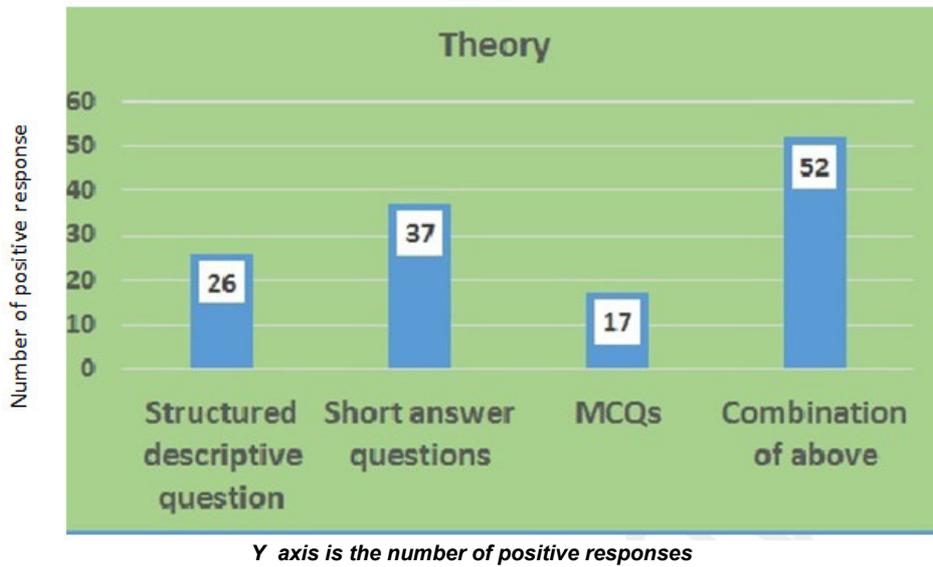*Proposed methods to rectify with students response*

Y axis is the number of positive responses

Figure 6
Evalation method for theory as suggested by students in %

Y axis is number of positive responses
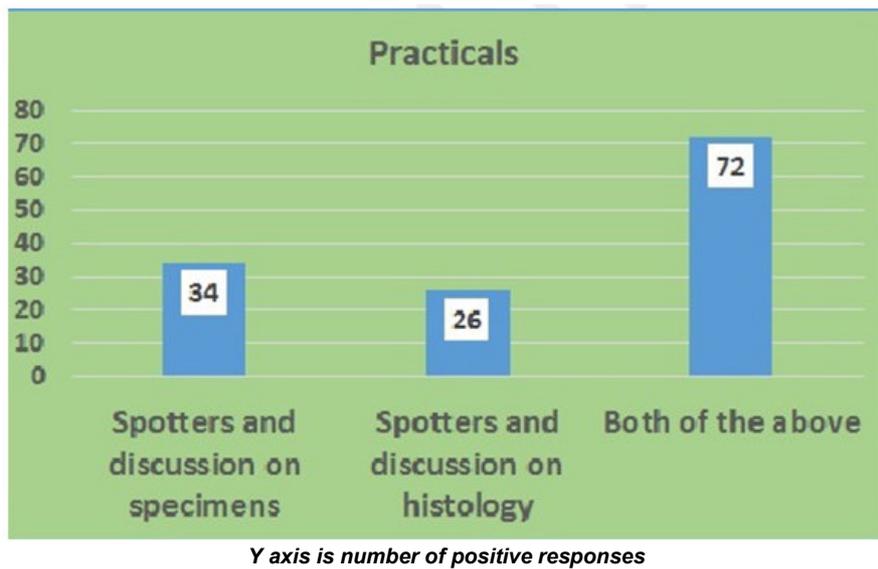
Figure 7
Method for practicals as suggested by students in %
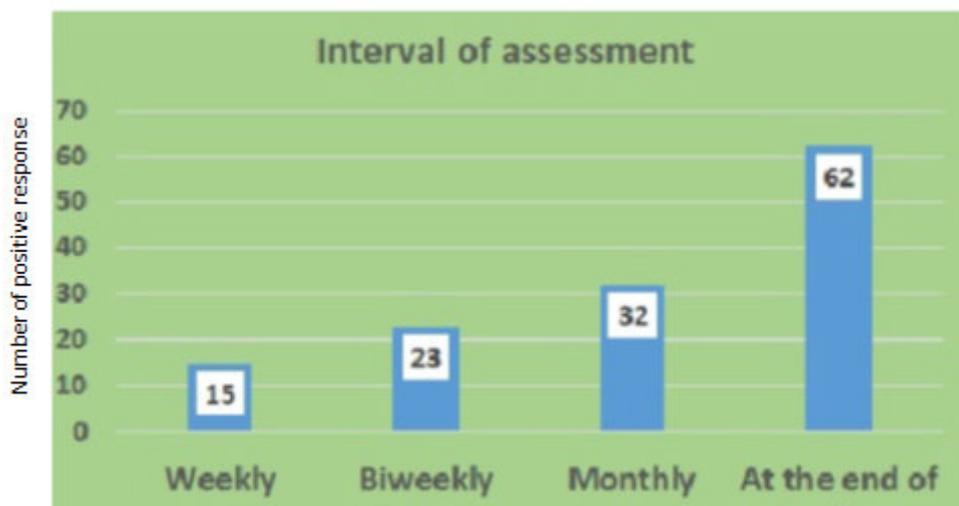

Figure 8
Interval of evaluation as suggested by students in %

Questionnaire

SAVEETHA MEDICAL COLLEGE CHENNAI
DEPARTMENT OF ANATOMY

Feedback Questionnairefor First MBBS students of 2014-15 batch

1.   Which of these subdivision of Anatomy did I face maximum problem in learning and understanding. Tick any one or more
a.   Gross Anatomy
b.   Histology
c.   Embryology
d.   All of the above
e.   None

2.   Which of the following problems I faced the most in Gross Anatomy.Tick any one or more
a.   Disinterest
b.   Inability to identify specimens
c.   Inability to correlate theory withspecimens shown
d.   Inability to recall.

3.   Which of the following problems I faced the most in Histology.Tick any one or more
a.   Disinterest
b.   Inability to identify slides
c.   Inability to comprehend the class

4.   Which of the following problems I faced the most in Embryology.Tick any one or more
a.   Disinterest
b.   Inability to follow the sequence of events
c.   Inability to correlate the theory knowledge in identifying models and charts.

5.   Proposed methods of rectification which I feel are appropriate.Tick any one or more
a.   Inculcating Quizes, students seminar , tutorials, written test at end of each anatomical region
b.   Inculcating habbits of self learning and group study
c.   Embryology to be dealt systemwise in coordination with Gross anatomy Regions
d.   Use of Audiovisual aids in form of Dissection videos, animation, etc.
e.   More frequent revisions
f.   Reducing the speed of teaching and repeating key points

6.   How would I like the evaluation method of theory to be- Tick one or more
a.   Structured descriptive questions
b.   Short answer questions
c.   MCQ s
d.   Combination of above

7.   How would I like the evaluation of practicals to be- Tick one or more
a.   Spotters and discussion on specimens
b.   Spotters and discussion on slides
c.   Both of the above

8.   I would prefer assessment at- tick one or more
a.   Weekly intervals
b.   Biweekly intervals
c.   Monthly intervals
d.   At the end of each Anatomical region.

9.   Overall grade the Anatomy department teaching in a scale 1-10

DISCUSSION

Medical education is undergoing extensive and revolutionary changes in present times. With the advent of innovative teaching methodologies with the use of internet,electronic media, educative videos ,conferences, CMEs the traditional methods of teaching Anatomy are facing challenges. There is a need of the hour to address the true need of the students, assessing their problems in learning Anatomy andprovide suggestions to solve the problems. The view of the students regarding their disinterest and reluctance to read a particular subdivision of Anatomy has been addressed in this study. The reason for the disinterest has been too emphasized. This study was conducted, keeping all the traditional methods of teaching in practice i.e. cadaveric teaching for practical's, didactic lectures in theory for gross, embryology, histology, discussion and demonstration of histology slides.Thebestmethod of learning in the dissection hall was teaching on the cadavers.[7]Cadaveric dissection is a favorable approach for achieving important learning objectives in the field of anatomy.[8]In the present study students preferred to have multiple revision of already demonstrated cadaveric specimen and bones in dissection to improve their confidence and skill.In the study by ShoaibRafique[9]students preferred multiple choice questions as best method of assessment.[9]Whereas in another similar study 55.03% of students favored descriptive and short essay questions with multiple choice questions as a pattern of examination and only 21.7% students agreed for multiple choice questions with true/false type questions.[4] In the present study students preferred a combination of descriptive questions, short answers a multiple choice questionnaire as method of assessment in theory.Considering the interval of assessment about 70 % of students preferred weekly test in the study conducted by S K Nagar [7]In study conducted by RashmiJaishwal[4]studentspreffered test at the completion of region or part which is very similar to the present study.According to B Karmer[10]solutions to problems in learning Anatomy can be addressed by providing more time, scheduling and restructuring lectures, using more visual aids, and including tables and summaries which can be easily recalled.[10]It is important to emphasize that students will only remember 20% of what they read, 30% of what they hear, 40% of what they see, 50% of what they say, and 60% of what theydo. This average increases to 90% forinformation they say, hear, see, and do.[11] Other studies have shown that students learn better by using active learning strategies,because active learning methodologies reach all types of students.[12-14]Active learning methods promote thinking through understanding, reasoning and improve problem solving and decision-making skills. In

the present study students preferred active learning methods in form of quizzes, students seminars and they too preferred self and group discussions of the portions already taught to them. Students in present study preferred repetation and reinforcement of key points during teaching and at end of lectures. Statistical analysis was done in calculating the percentile detailed statistical analysis was avoided as the sample size is small and the significance detected can be misleading and it calls for further studies.Students strongly felt that more frequent revisions would help them to remember theory and practical aspect of the subject.In the study by Esther M Bergm,[15]students felt that repetation of important key aspects of the topics in the subject increases retention of knowledge to a greater extent than stricter assessment, which in turn enhances motivation.[15].

CONCLUSION

The present study thus attempts to draw a picture of the students attitude towards the subject of Anatomy and thus calls for more studies dealing with the views of students regarding problems faced assessment methods, time allotted in teaching Anatomy to 1st MBBS students. of This study does not deal with the curriculum its only a view point of students towards the various subdivisions of Anatomy, their difficulties and their suggestions towards a better assessment techniques . Introduction of more interactive teaching and learning methodologies in Anatomy can be recommended and suggested but it still need more aggressive studies in this regard. In this study the student also preferred active involvement of teaching faculty in revision classes and more frequent revisions which puts challenges to the teaching faculty and thus provide a scope in which we can improve. Importance to key points , more frequent revisions by teachers self and group study of specimens and slides were given more importance than to computer aided teaching methods in form of audiovisual aids, animation. On the other students preferred active teaching and learning strategies in form of quizzes, students seminars and written test at end of each region. This calls for more active participation from the department of Anatomy to conduct more numbers of these programs. This study thus shows there is a constant need for modification of the attitude of teaching Anatomy planning and scheduling of lectures with keeping in mind abiding the syllabus and curriculum by Medical Council of India for undergraduate Anatomy teaching The

CONFLICT OF INTEREST

Conflict of interest declared none.

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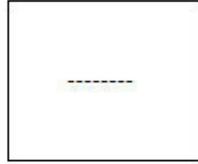
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