A comparative study of anatomy practical teaching methods about kidney's anatomy among 1st yr MBBS students

J Jayarani

Sr. Assistant Professor, Institute of Anatomy, Madurai Medical College, Madurai, Tamil Nadu, INDIA. **Email:** <u>drjjgynaecs@gmail.com</u>

Abstract

Aim: My study is aimed to do Anatomy practical comparative study about Kidney's Anatomy by Dissection and Kidney Anatomy Model to assess the 1st year MBBS students Anatomy practical knowledge and skills. **Materials and Methods**: For each Anatomy practical session of Dissection and Kidney Anatomy Model demonstration,52 students among 156 students of 1st year MBBS 2014-2015 batch were randomly selected based on the 12th std qualification, English medium and equal proportion of boys and girls. **Results and Discussion**: At the end of the kidney dissection and Kidney Anatomy Model the post test was conducted to assess the outcome of Anatomy practical teaching methods by using ten objective type questions. For dissection method 57.7% of students were showed the best performance compared to the Model demonstration where 38.5% of students showed the best performance. With above results, the objective of active learning through dissection method produced expected results compared to the kidney Anatomy model among 1st year MBBS students. Dissection would appear to be ideally suited to self directed learning. **Conclusion**: Dissection allows haptic(based on a sense of touch) appreciation of 3D Anatomy unlike other teaching facility. It infused confidence in the students, invoked the spirit of co operation amongst themselves for forth coming university practical exams, for the long term basic knowledge and implementation for future surgical skills. **Keywords:** kidney's anatomy, MBBS.

*Address for Correspondence:

Dr. J. Jayarani, Sr. 12/GF A3 mb Namasya, Navalar Nagar 3rd st, S. S. Colony, Madurai -10, Tamil Nadu, INDIA. **Email:** <u>drjigynaecs@gmail.com</u>

Received Date: 18/07/2015 Revised Date: 14/08/2015 Accepted Date: 01/09/2015



INTRODUCTION

Anatomy practical teaching has perhaps the longest history of any component of formalized medical education. Anatomy practical teaching method consists of different kinds like the oldest and basic method of dissection, plastic models, plastination, manikins, living model and recent advanced methods like simulators and Anatomage etc. Anatomy through the dissected cadavers is widely appreciated as being among the most significant of medical education and is viewed as the uniquely defining features of medical course. The foundational model of Anatomy is a frame based ontology that represents declarative knowledge about structural organization of the human body part-whole relationships play a particularly important role in this representation. Kidney's are one of most important retroperitoneal abdominal urinary organs are situated on each side of the vertebral column and surrounded by adipose tissue. Each kidney is about 11x6x3cms in antero posterior dimensions and has many peritoneal and visceral relations and also related to major blood vessels and nerves. This made me to do the Anatomy practical comparative study in this region by different methods like Dissection and plastic model demonstration among Ist year MBBS students in the practical session, to improve their attention and skills and also to assess the practical knowledge and outcome of the students.

OBJECTIVES

Anatomy Practical teaching methods by Dissection and model demonstration among 1yr MBBS students 2014-2015 batch about kidney was conducted to improve their anatomy practical knowledge, skills and outcome of the students.

How to site this article: J Jayarani. A comparative study of anatomy practical teaching methods about kidney's anatomy among 1st yr MBBS students. *International Journal of Recent Trends in Science and Technology*. September 2015; 16(2): 401-403 http://www.statperson.com (accessed 14 September 2015).

: 156 students of 1yr MBBS 2014-2015 batch

MATERIALS AND METHODS

- a) Study design :Cross csectional study
 - b) Study population
 - c) Study duration
 - : 1 year d) Study period : 1 hour/day ,six working days/wk
- Sample size e)
 - : 52 students (26girls,26 boys) for Dissection method 52 students (26girls, 26 boys) for Model demonstration.
 - Sampling technique : Stratified Random Sampling method. Among 12table students,4 table students were randomly selected for study with equal proportion of girls (26) and boys (26) from 156students of Ist year MBBS of 2014-2015 batch.

Data collection Method

Medium of Instruction

Methods

f)

- : Dissection and Model Demonstration
- : English : 1 hour/day,6 working days/wk

: 1 year

- Duration of practical class Duration of study
- Inclusion Criteria
- : Students were selected based on
- 1. Age group 17-19 years
- 2. Basic qualification 12th std
- 3. Medium English
- 4. Members Girls and Boys in equal proportion
- 5. Class duration Practical classes in all working days
- 6. Contents of class
 - a) Kidney dissection by posterior approach
 - b) Description
 - c) Coverings of kidneys
 - d) Parts of the kidneys
 - e) Relations (peritoneal and visceral)
 - f) Structure arrangements at the hilum
 - g) Arterial supply
 - h) Venous drainage
 - i) Cross sectional study
 - Clinical Anatomy j)
- Evaluation: 10 Objective type Questions from each headings. 7.

RESULTS AND DISCUSSION

At the end of the dissection and model demonstration post test was conducted to assess the outcome of Anatomy practical teaching methods .Skill and the knowledge of the students about practical class was assessed by using

10 objective type questions. Each questions from each topic, for total 10 marks for each group. Results were tabulated and better method was observed and analysed. Kidney dissection Kidney Model





Table 1. Anatomy practical comparative study (Dissection and Wodel demonstration)				
Results	Dissection		Models	
For 10 marks	No of students	No of students in %	No of students	No of students
Average < 5 marks	8	15.3%	14	27%
Good 5-7 marks	14	27%	18	34.5%
Best 8 ≤	30	57.7%	20	38.5%
Total	52	100%	26	100%

Table 1: Anatomy practical comparative study (Dissection and Model demonstration)

With the above results, the objective of active learning through dissection method was found to have produced expected results compared to kidney model among Ist year MBBS students. Dissection would appear to be ideally suited to self directed learning .Students exploring a subject for themselves at their own pace, in a practical way and according to their own personal interests.

CONCLUSION

Dissection allows haptic (based on a sense of touch) appreciation of 3D anatomy unlike other teaching facility. It infused confidence in the students, invoked the spirit of co- operation amongst themselves for forthcoming University practical exams, for long term basic knowledge and implementation for future surgical skills. Dissection method showed the better outcome among the students compared to the kidney model demonstration.

This concludes that dissection method is more appropriate practical teaching method for Ist year MBBS students.

REFERENCES

- 1. Anatomy teaching Ghosts of the past, present and future Durham university, Durham England; United Kingdom medical education (Impact Factor 3.62) 04/2006;40(3):243-53.
- Ann R Coll Surg Engl. 2007 Mar; 89(2):104-107.doi:10.1308/003588407*168244.
- 3. AMIA Annu Symp Proc.2003:2003:450-454 Representing Complexity in part-whole Relationships within the Foundational Model of Anatomy.
- 4. Aziz et al .,2002
- Cunningham's Manual of Practical Anatomy 15th editionvolume-2- P165.
- 6. Gray's Anatomy 2008(40th edition).
- 7. Article: Learning Anatomy Through Dissection perception of a Diverse Medical Students Cohort.
- 8. Mc Lachlanand Patten, 2006.

Source of Support: None Declared Conflict of Interest: None Declared