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Indian Journal of Clinical Anatomy and Physiology

Journal homepage: https://www.ijcap.org/

Original Research Article

Awareness of dissection skills and tools session in preparing first MBBS learners for cadaveric dissection in medical school a qualitative analysis

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ARTICLE INFO

Article history:
Received 28-05-2021
Accepted 17-06-2021
Available online 06-07-2021

Keywords:
Dissection skill
Dissection tools
Anatomy
Cadaver
First MBBS learner

ABSTRACT

Introduction: Qualitative dissections require knowledge of dissection tool kit and dissection skills which acquired will allow dissector to take care for cadaveric donor while acquiring the experience and knowledge of a successful dissection. This promotes the researcher to equip the learner in initial phase with dissection skills and tools.

Purpose: The main objective of the study is to analyse the learner prior and after interventional sessions as to how effective the session would be helpful in improving the quality and participation of learners in dissection.

Materials and Methods: A qualitative prospective cross-sectional study was done in 168 Learners of I MBBS by an interventional session on the topic through General lecture and demonstration. Learners were assessed prior and after the interventional session by same validated questionnaire. Perceptions of learners were also taken. The obtained data were compared and its significance was analysed by Chi-square test using Epi info 7.1 software.

Results: The pre and post-test scores showed a significant improvement of 64 percent on average with p value less than 0.001 indicating that the session was fruitful. 80% of learners also opined that the session stimulated interest in the subject and improved their dissection skills.

Conclusion: An interventional session on "Awareness of dissection skills and tools" in the initial phase would increase the Learners performing quality dissections with ease. This would also help the learner to acquire better independent surgical skills and understanding in clinical phases of learning and therefore would recommend it in early phase of I MBBS Anatomy.

1. Introduction

Dissection defines anatomy and teaches essential skills that support the development of a learner across the spectrum of medical education.[1] Every learner is expected to do dissection in Anatomy. During dissection, especially at the beginning of the course, instructors can demonstrate dissecting skills that will greatly benefit students during their subsequent dissections. Despite the advent of modern technology and evolving teaching methods, dissection continues to remain a cornerstone of anatomy curriculum.[2] Its utility is also reflected in the perception of students who are of the opinion that dissection provides them with a foundation critical to development of clinical skills.[2] Using proper technique during dissections is important for developing good dissection skills.[3] Gaining technical skills in the lab makes the process of dissection more efficient and certainly facilitates students learning.[4] If directed creatively, dissection provides the platform for the independent thinking that underpins the development of

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https://doi.org/10.18231/j.ijcap.2021.022

diagnostic aptitude. Dissection can thus play many roles in the educational process.[4]

In my observation for over past years most of the learners do not have sufficient knowledge of dissection tool kit, how to use the tools (for example how to insert the scalpel blade into the handle, how to wear gloves and the ways of using instruments in the dissection kit) and techniques of doing dissection. Because of this most of the learners in the initial days have injuries, take more time to dissect without knowing proper techniques and get easily fatigued. Some of them lose interest too which may lead to improper dissections. With proper dissection techniques, not only the learner will save time, but also will be able to better find, isolate and mobilize the structures. No existing research was done in this field which stimulated author to do so. Henceforth the main objective of this study is to sensitize the learners with dissection tools and skills so that the learner will be able to perform dissection with ease and enthusiasm. This would also increase the percentage of learners doing dissection effectively.

2. Objectives

1. To assess the learners' knowledge with dissection skills and tools prior to interventional session.
2. To assess the learners' knowledge with dissection skills and tools after the interventional session.
3. Perceptions of learners with respect to interventional session.

3. Materials and Methods

Ethical Clearance for this study was taken from Institutional Ethics Committee of Osmania Medical College, Hyderabad, Telangana with Ref. No. IEC/ OMC/2021/M.No.(05)/ Acad. – 58 and REG. No. ECR/300/Inst/AP/2013/RR-19. A prospective cross-sectional study was carried out with 200 I MBBS learners in Anatomy department. Of which only 168 participated in answering the questionnaire. The study tools used were General lecture, demonstration with audiovisual aids, validated questionnaires. Pre-analysis was done with a validated questionnaire about their knowledge of dissection skills and tools. An interventional session was done after 1 month of entry of I MBBS Learners with General lecture followed by small group teaching with demonstration by trained faculty using projection of videos of how to use instruments, how to wear and remove gloves, how to wear mask, how to wash hands and techniques of doing dissection. The learners were allowed to practice. Later post-test analysis was done with same validated questionnaire. Perceptions of learners were also taken regarding session. The pre and post- test results were analysed and compared. Chi-square test was used to know the significance of intervention. P value was obtained to know the significance of study. Data was analysed by using Epi Info 7.1. Perceptions of all learners were taken with Likert scale regarding session.

4. Results

The results of pre and post analysis tests of 168 students are tabulated in Table 1 overall knowledge of dissection skills and tools improved after interventional session by 64%.

Significant improvement evident by P value <0.0000001 was seen after the interventional session on "Awareness of Dissection skills and tools in preparing I MBBS learners for cadaveric dissection".

Most (80%) of learners felt that the session was very useful to them in stimulating interest, in-depth knowledge of the subject, acquiring dissection skills, performing qualitative dissections and a worthful session to be taken for every batch.

5. Discussion

Most of the researches were done with respect to efficacy of cadaveric dissection in learning and teaching Anatomy; what can replace or supplement cadaveric dissection due to reduced availability of number of cadavers.

This is a unique study and first of kind. No previous studies were seen where learners were primed with knowledge of dissection tools and skills initially, thereby increasing the percentage of learners performing dissection with ease.

In the present study, there was a significant improvement in the knowledge of learner with dissection skills and tools. The learner also had hands on experience and were able to apply it while doing dissections. 80% of the learners opined that the session stimulated interest the learning subject, improved dissection skills and their performance in dissection with ease. The learners felt it was a worthwhile class and recommend it to be done for their juniors too. The same perceptions were found in the study of Zhang G,[4] where learners felt that dissection techniques made them better dissectors.

Study conducted by Ilker Selcuk et.al (2019)[5] concluded that proper cadaveric dissections will improve surgical skills of undergraduates, residents and postgraduates.

6. Conclusion

It becomes evident from the present study that such interventional sessions at the initial phase of learning would improve, stimulate, increase the learners' participation in dissections with perfection and ease. This would also help the learner to acquire better independent surgical skills and understanding in clinical phases of learning and therefore would recommend it in early phase of I MBBS Anatomy.

Table 1: Pre, post-test scores and percentages with validated questionnaire

Questionnaire	Pre - Test		Post-Test		Percentage Improved	Chi-square value	P Value
	Score	Percentage	Score	Percentage			
At what angle is scalpel used?	42	25	146	87	62	128.1	<0.001
Enumerate steps of inserting and removing scalpel blade from BP Handle of scalpel.	19	11	139	83	72	169.2	<0.001
Will you be able to demonstrate the above one with ease?	14	8	120	71	63	136.85	<0.001
Indicate where toothed and Non- toothed forceps are used?	30	18	152	90	72	175.5	<0.001
Give indications where hand lens is used in dissection?	6	4	149	89	85	241.5	<0.001
Are you aware of technique of wearing and removing gloves?	50	30	139	83	53	93.7	<0.001
If so, can you demonstrate the above one?	21	13	127	76	63	133.13	<0.001
Do you know how to wear a sterile mask?	60	35	157	93	58	119.91	<0.001
Enlist the names of instruments in dissection tool box?	96	57	152	90	33	46.57	<0.001
How to keep the dissections moist/ life like?	26	16	148	88	72	177.41	<0.001
How to reduce effect of formalin while doing dissections?	31	18	153	91	73	175.9	<0.001

Table 2: Perceptions of learners about the session

Question	Excellent /strongly agree	Very good/ Agree	Good/ Neutral	Fair/ disagree	Poor/ strongly disagree
The instructor stimulated interest in the subject	104	43	20	0	1
The instructor demonstrated in depth knowledge of the subject	81	68	14	3	1
This was a worthwhile class	86	57	23	0	1
How do you rate your experience with this session	67	70	22	32	2
Would you recommend this session to your juniors	106	48	5	1	4
Has this session improved your dissection skills	102	48	9	23	3
How do you grade this session?	91	60	11	0	2
Do you think this should be included in anatomy as a chapter	80	39	19	11	16

7. Source of Funding

None.

8. Conflict of Interest

The authors declare that there is no conflict of interest.

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Cite this article: Gowri TLS, Ramadevi M, Vedapriya A, Janaki V, Rao JSKS, Mohiuddin SA. Awareness of dissection skills and tools session in preparing first MBBS learners for cadaveric dissection in medical school a qualitative analysis. *Indian J Clin Anat Physiol* 2021;8(2):94-97.