

ASSESSMENT OF ADVANCEMENT OF KNOWLEDGE OF UNDERGRADUATES ATTENDING OPHTHALMIC OT

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ABSTRACT

BACKGROUND

Ophthalmology is a subject where surgical techniques are continuously changing and advancing rapidly.^{1,2,3} Passing on the knowledge and skills of new techniques to succeeding generations effectively is both a responsibility and necessity of teachers and trainers in the field.⁴ This study was conducted to assess the knowledge gained by the undergraduates during the ophthalmic OT posting, to collect the feedback and identify gaps in their training and thus improve the teaching and learning activity.

METHODS

This is a cross sectional study done among 250 undergraduate students who have completed their ophthalmic OT posting with a self-administered questionnaire.

RESULTS

Majority have answered correctly regarding quantity of cataract surgeries being done per day, but very few have seen surgeries other than cataract. Majority were able to follow the cataract surgery steps by watching through CC TV with difficulty to understand few steps.

CONCLUSIONS

Most of the students are satisfied but believe that there is a further need for improvement of teaching, providing audio aids of ongoing surgery, allowing the students to watch surgery through observing microscope. Lesser evidence of other surgeries might be because of the reason that most of them are being done after their OT hours (after 12 pm).

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BACKGROUND

There are various studies on post graduates of ophthalmology based on their surgical training, acquisition of skills and future plans. Prior surveys of ophthalmology residents have discussed feedback and satisfaction of residents with their residency training as a whole.^{5,6}

But there are no studies on undergraduates regarding their acquisition of knowledge and to the extent which, their understanding of surgical steps watching through CCTV.

Undergraduate students are usually posted for 15 days in 4th semester and again in 6th semester for ophthalmic postings. A total of around 8 OT postings are scheduled for all the students. Predominant mode of learning of OT proceedings is watching surgeries through Closed Circuit TV. Teachers usually make sincere efforts to make them understand the surgical steps in the OT.

So, an attempt is made to understand their knowledge, overall observation skills along with their feedback which would help to identify deficiencies in teaching methods and provide a better learning activity in OT.

It also helps in taking further action to fill those gaps mentioned in the feedback which would enhance the overall learning experience in the OT.

Aim of the Study

To assess the knowledge gained by the undergraduates during the ophthalmic OT posting

Objectives of the Study

- To identify gaps in their training in the ophthalmic OT and thus improve the teaching and learning activity.
- To collect the feedback regarding the posting and scope for the improvement.

METHODS

Study Design

A cross sectional study.

Study Setting

Andhra Medical College, Visakhapatnam.

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Inclusion Criteria

Undergraduate students who have completed their ophthalmic OT posting in 4th and 6th semesters and have given consent.

Exclusion Criteria

Who are absent at the time of the study, and who have not given consent.

Sample Size

Among the eligible 400 students only 277 were present at the time of the study, and only 250 have given their consent.

Sample Tool

A self-administered questionnaire containing 12 questions one with open-ended and remaining with closed-ended questions was distributed among 250 students.

- One (Q.1) of the 12 questions was regarding their attendance percentage to OT.
- 3 (Q.2, 3, 9) of the 12 questions are directed towards the assessment of their knowledge gained in the OT and related them with their attendance percentage.
- 2 (Q.7, 8) of the 12 questions are directed towards their observation on number of cataract surgeries and diversity of surgeries they have evidenced in the OT.
- 5 (Q.4, 5, 6, 10, 11) of the 12 questions are targeted on their feedback about their understanding of cataract surgery steps on closed circuit TV in OT and their perception towards pursuing ophthalmology as post-graduation.
- One (Q.12) question was open-ended asking their suggestions to improve teaching/learning activity in OT.

RESULTS

Among 250 students 111(44.4%) have attendance less than 70% and 139(55.6%) have attendance greater than 70% to OT.

Based on 3 questions directed to test their knowledge, majority (40%) of students with <70% attendance have answered only one question correctly and majority (44%) of students with >70% attendance have answered 2 questions correctly.

Correct Answers	Attendance Less Than < 70% (111)	Attendance More Than >70%(139)	
0	30 (27%)	20 (14%)	50 (20%)
1	44 (40%)	50 (36%)	94 (37.6%)
2	28 (25%)	62 (45%)	90 (36%)
3	9 (8%)	7 (5%)	16 (6.4%)
Table 1. Assessment of Knowledge			

- Chi-square test for significance was used to test knowledge levels against attendance and was found to be statistically significant ($p=0.00529$).
- Students with better attendance were found to have more knowledge and better understanding than students with lower attendance.

Based on 2 questions targeted to test their observation majority 175(70%) have answered correctly regarding number of cataract surgeries being done per day, but very few 45(18%) of them have evidenced surgeries other than cataract.

Based on 5 questions directed on their feedback, majority 140(56%) were able to follow the cataract surgery steps by watching through closed circuit TV with difficulty to understand few steps, and majority of them answered as average 118(47%) and satisfied 100(40%) on the knowledge and skills taught by teaching faculty during OT.

Regarding pursuing ophthalmology as post-graduation, majority 115(46%) of them are interested only if they have no other options for their rank. And few of them have expressed disinterest in surgical branches.

DISCUSSION

Students with better attendance achieved more knowledge when compared to students having lesser attendance. It indicates attendance plays a major role in gaining knowledge as well as helps in better understanding of surgical procedures.

Very few of them are unaware of the number of cataract surgeries being done in our hospital, which could be due to lack of proper attendance.

Most of the students have evidenced very few surgeries other than cataract. The possible reason for it is that most of the other surgeries like pterygium excision with graft, squint surgery, dacryocystectomy, dacryocystorhinostomy, evisceration, enucleation are performed after cataract surgeries i.e. after >12 pm while the clinical posting is only till 12.30 pm. Most of the lid reconstructions are post traumatic and done under emergency basis in the evening hours. This could be solved by planning other surgeries within their OT hours (before 12 pm) and informing the students a day before about the planned surgery which gives them sufficient time to prepare.

The range of factors influencing career choice may vary for different specialties.^{7,8,9,10,11} Therefore, a lot of research studies are being conducted to figure out the reasons for choosing particular careers, the personal characteristics of those medical students,¹² link with specific personality types, and the background factors pressurizing toward particular career preference.¹³

Most of the students are satisfied but believe that there is a further need in the improvement of teaching in various aspects regarding-

1. Supplementing any audio aid in the form of surgeon with collar mike or concerned faculty outside, explaining the ongoing steps will be of benefit.

2. Making aware of surgical instruments in the OT itself and,
3. Allowing the students to watch surgery through observer microscope.

By making the above possible changes in their teaching in the OT makes the subject more interesting and many of them may show interest in pursuing ophthalmology as post-graduation.

CONCLUSIONS

Most of the undergraduate students attending the ophthalmic OT are satisfied but with need of few improvements in the teaching activity as mentioned above. With these, one can improve their attendance percentage which in turn can improve their knowledge.

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APPENDIX

Questionnaire

Dear Doctor,

The following questionnaire is aimed at evaluating your advancement of knowledge during your ophthalmic OT posting and to assess which entities of such posting need further attention from faculty.

This exercise is strictly anonymous, and your name/identity is not solicited. Your feedback will be kept strictly confidential and will not be traced back to you. You can decline your consent by simply not returning the forms.

1. Your attendance during ophthalmic OT posting?

- a) > 80%
- b) 70- 80%
- c) 60- 70%
- d) 50% or less

2. What are the anaesthetic solutions used for the blocks in our OT?

- A) 4% lignocaine + hyaluronidase.
- B) 2% lignocaine + hyaluronidase.
- C) Bupivacaine.
- D) Proparacaine.

- a) A alone. b) A+C. c) B+C. d) D alone

3. What are the anaesthetic techniques that are followed in our OT?

- A) Retrobulbar block. B) Facial Block C) Topical Anaesthesia
- D) Peribulbar Block. E) General Anaesthesia.

- a) All
- b) B, C
- c) B, C, E
- d) B, C, D, E

4. What did you do in the ophthalmic OT posting?

- a) Read the text book.
- b) Follow the cataract surgery steps by watching the TV.
- c) Follow the steps and correlate them with the text book.
- d) Read the steps, the previous day and recollect them by watching the tv.

5. Were you able to follow the cataract surgery steps by watching the tv?

- a) Yes, completely.
- b) Yes, but not completely.
- c) Difficult to understand many steps.
- d) Didn't understand at all.

6. To learn cataract surgery steps, which method do you prefer?

- a) Live surgery through observing microscope.
- b) Live surgery through TV with explanation.
- c) Live surgery through TV.
- d) You tube clippings.

7. Average number of cataract surgeries done in our hospital per day?

- a) Within 10 b) 10-20 c) 20-30 d) 30-40

8. What other surgeries you have seen in OT other than cataract surgery?

Pterygium excision, chalazion incision & curettage, dacryocystectomy, dacryocystorhinostomy, evisceration, keratoplasty, squint surgery, ptosis surgery, ectropion/entropion surgery.

- a) All
- b) Many but not all.(mention the surgeries)
- c) Few of the above(mention the surgeries)
- d) Not even one of the above.

9. According to NPCB guidelines, what is the hand scrubbing time in the OT?

- a) 5 mins b) 8 mins
- c) 10 mins d) 12 mins.

10. Are you interested in pursuing post-graduation in ophthalmology?

- a) Yes, its my dream branch.
- b) Yes, but second option after my favourite branch.
- c) Not interested but choose if other branches are not available for my rank.
- d) No, not interested.

11. Knowledge and skills taught by teaching faculty during OT posting?

- a) Highly satisfactory.
- b) Satisfactory.
- c) unsatisfactory.
- d) Highly unsatisfactory.

12. Your 3 suggestions to improve learning/teaching activity in the OT?

- 1.
- 2.
- 3.

Thank you for Participation

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