

## Research Article

# Effectiveness of “short questionnaire” handout during otolaryngology didactic lectures of undergraduate medical students.

*Dr. Bhavna kamble<sup>1</sup>, Dr. Roshan Bhaisare<sup>2</sup>*

<sup>1</sup>Assistant Professor, Dept of ENT, Jawaharlal Nehru Medical College Sawangi (M), Wardha, MH, India,

<sup>2</sup>Associate professor, Department of orthopaedics, Jawaharlal Nehru Medical College Sawangi (M), Wardha, MH, India

**Address for correspondence: Dr. Bhavna kamble**

Assistant Professor, Dept of ENT, Jawaharlal Nehru Medical College Sawangi (M), Wardha, MH, India

### ABSTRACT:

**Introduction :** Medical teachers needs to innovate different strategic in order to increase the attention and interest of the students in “minor” subjects like otolaryngology (ORL) / ear nose and throat (ENT). One helpful approach could be using a “short questionnaire” handout containing probable questions from the topic of didactic lecture.

**Material and methods:** Sixth semester lectures of ORL/ ENT were divided in two groups. For “group A” lectures students were provided with “short questionnaire” handouts before lecture. The hand out were containing of MCQs, BAQs, SAQs. For “group B” lectures no handouts were provided. At the end of lecture short test was done. Scores were calculated and compared.

**Results:** When students were provided with “short questionnaire handouts” they perform well. We suggest “short questionnaire” definitely helps in increasing attention of the students to the lecture. In addition it also helps in increasing self directed learning by them particularly for minor subjects, to which they pay less attention.

**Keywords:** Medical Education, Handouts, Didactic lectures, otolaryngology.

### Introduction:

In India for undergraduate medical student’s otolaryngology (ORL) / ear nose and throat (ENT) as a subject is a part of third first bachelor of medicine and bachelor of medicine (MBBS) curriculum ,along with ophthalmology and community medicine . Theory and clinics of ENT are started when the students are in sixth semester (each semester is of 6 months). Theory lectures and clinics of medicine and surgery are started in 4<sup>th</sup> semester. In India otolaryngology (ORL, ENT) is consider as a minor subject of MBBS hence naturally the students pay less attention to it and their main focus is on major subjects like Medicine ,Surgery ,OBGY and Paediatrics . So it is necessary for the ORL / ENT medical teachers to innovate different strategic in order to increase the attention and interest of the students in the subject. Keeping this aim in mind we had tried to develop a innovative method of using a “short questionnaire” handout. This handout contains probable questions from the topic of didactic lecture. The questions are multiple choice questions (MCQs) ,basic answer questions (BAQs), short answer questions (SAQs).

### Methodology:

The study was conducted in a medical university attached medical college in rural India. In this medical college didactic lectures of ORL/ENT for undergraduate student’s starts in 6<sup>th</sup> semester of MBBS. And the clinical postings also start around same time. The batch was comprised of 153 students .Out of this 146 students participated in study. Before conducting the study, short “questionnaire handouts” were prepared. The

handouts were consisting of probable questions from the topic. It includes MCQs, BAQs, SAQs, LAQs (if any) . The handouts were discussed with other faculty of the department and modified accordingly. Evaluation test sheets were prepared which contains 10 MCQs. Each MCQ was of one mark with four options A,B,C,D . The evaluation test MCQs were basically related to the probable questions mentioned in the short “questionnaire handouts”. Didactic lectures were divided in 2 groups of equal difficulty group A and group B. For group A lectures hand outs were provided and group B was control where no handoust were provided. In order to avoid instructor bias All the lectures were taken by same instructor (lecturer/assistant professor). Group A lectures were taken with the handouts previously circulated to the students. Group B lectures were taken without providing handouts to the students. Handouts were provided to the students soon they enter the classroom by 2 volunteers amongst them. The lectures were delivered using power point presentation. At the end of the lecture a evaluation test containing short questionnaire (10 MCQs) was provided to the students by volunteers. Students were requested to complete the post test in 5 minutes. The evaluation test paper was evaluated by the instructor the same day and the mean score was calculated. The same procedure was applied for the lectures where hand outs were not provided. Total 8 didactic lectures were taken, 4 were with handouts and 4 were without handouts. The evaluation test score was calculated for both groups. Results were analysed at the end of the study. Basically this study was conducted as a project work for basic medical education

technology (MET) course by the first author. This course (MET) is conducted by the medical council of India (MCI). And this medical university is the nodal centre for MET in India

**Results and conclusion**

**Average marks score**

Sr. No.	Gr.A	Gr.B
1	8.3	6.2
2	7.9	6.4
3	7.5	5.9
4	8.4	6.5
Mean	8.02	6.25

At the end of the study, the mean score when handouts were provided to the students was 8.02 marks and when no handouts were provided the score was 6.25 marks. There was a net gain of 1.8 marks when students were provided with handouts containing probable questions. The t value was 7.2590 and degree of freedom df was 6. Standard error of difference was 0.245 and the ‘p value’ was 0.0003 which is statistically significant and 95% confidence interval of this difference: 1.177 to 2.373

Group	Group A	Group B
Mean	8.025	6.250
SD	0.411	0.265
SEM	0.206	0.132
N	4	4

We recommend this simple change of providing short “questionnaire handout” could be of immense help to the ORL/ENT undergraduate students to sensitize them about the important portions and probable questions of a topic.

**Discussion:**

In India the total duration of MBBS is 4 and half years. It is divided as follows, first MBBS initial 1 and half years .It consists of basic medical sciences subjects Anatomy ,Physiology and Biochemistry. Followed with second MBBS course of 1 year. It consists of pre clinical subjects. Third MBBS is of 2 years consisting of clinical subjects. The third year is divided again in third first MBBS of one year consisting of ORL/ENT, Ophthalmology and Community medicine. These subjects are known as minor subjects and they carry fewer marks in university examination as compare to third second year subjects like Surgery, Medicine, OBGY, and Paediatrics. Since the minor subject carry lesser marks students are generally less attentive to minor subjects. Hence it is on part of medical teacher to develop innovative ideas to improve the attention of students. It will definitely result in increase in the knowledge gain.

Another important issue is use of power point presentation (PPT) for delivering a didactic lecture. PPT have a advantage over chalk and board method and overhead projectors.<sup>[1,2]</sup> But

PPT do have some disadvantages also, like note taking while attending a PPT based class is difficult , since the speed of presentation is more and many time more emphasis is given on format of PPT than it’s content .<sup>[3,4]</sup> also note taking while attaining a PPT requires a high coordination of memory and writing process. It may lead to high mental and psychotic load that may result in boredom during attending PPT presentation<sup>[4]</sup>

To overcome this many newer modules have been proposed And using a handout during didactic lecture is one of them. Many universities provide complete comprehensive notes, but these full notes may have a negative effect on attendance of the students as they are getting readymade things in their hands<sup>[3]</sup>. Providing class room handouts may help to increase the attention span and knowledge gain and that is why classroom handout is a very sensitive topic.<sup>[5]</sup> by providing handouts students are actively involved in note taking which require more focus. This strategy ultimately leads to improved learning outcomes.<sup>[6, 7, 8]</sup>

There are different types of classroom handouts; one type is providing copy of the slides as it is. This type of handout is inflexible. Another type of hand out is structured outline of the lecture, in this type of handout plenty of space for note taking is provided, but the limiting factor is speed of delivery of the lecture. Third type is uncompleted hand outs, this type of hand out have diagrams and figures that students will complete with lecture. Advantage of this handout is keeping the students involved in lecture and saving their time since they don’t have to constantly write as the presenter talk. Fourth type of hand out is worksheet ,quizzes and problems. In this type of handout the students becomes more active learners .It also allows the lecturer to make judgements about levels of understanding by checking the answers,and discussing where students have gone wrong.<sup>[9]</sup>Another important aspect is when to provide handouts. Generally they are provided at the start or end of lecture. Hand outs at the start of lectures are preferred.<sup>[9]</sup>

Though the above mentioned types of handouts had a definitive advantage there are some points of concerns while using the handouts. Wongkietkachorn in his study stressed that handouts are essential for medical students. Hand outs offer qualitative improvement to lecture as compare to textbooks. But they do not offer significant increase in either self-directed learning or peer learning. There is no association between student grade point average score and their handout attitudes. He also suggested that deeper understanding of the topic cannot be acquired by handouts alone. It was suggested that motivation is probably the most important driving factor for learning among students. And it is the responsibility of the medical teacher to motivate students for self directed learning. For this the medical teacher should also develop the ability to motivate students .it was concluded that handouts are essential for medical students.<sup>[10]</sup>

The forth type of handout consisting of worksheet, quizzes

and problems is relatively less applied handout of all above handout except the “problem based handout”. A common form of this type of hand out is pre test and post test based evaluation. In this type , first existing knowledge of the students /participants about a topic is assessed. And then a intervention is given, may be in the form of a lecture , or demonstration or any other type. And at the end of the intervention evaluation about knowledge gain over existing knowledge is done by post test. The score of pre test and post test are compared. Generally the pre test is in form of MCQs. Conducting 2 tests may be possible for a work shop but it is generally not possible due to time constrains during a lecture to medical students . Moreover pre test generally contains MCQs only, and may have a disadvantage of not sensitizing the students about the BAQs, SAQs and LAQs which is also important from passing the university examination. These are the shortcomings which needed to be filled. To overcome these short comings we had avoided a pre test .Instead of that we had provided the students with short “questionnaire handout” which contains probable questions (likely to be asked during university examination) MCQs, BAQs, SAQs from the topic of didactic lecture. This forth type of handout is basically helpful for development of self directive learning and peer group learning.

A recent meta-analysis of 225 studies in undergraduate science students showed that examination scores improved in active learning students, while students with traditional lecturing were more likely to fail <sup>[11]</sup>. For higher studies and higher thinking learning through activities which engage students is must. Just listening in class with lecture handouts must be avoided. Teacher’s style of teaching is very important as it will impact the student’s style. And it is duty of the teacher to give the students vision to develop their own independent learning <sup>[12]</sup>

Soraya Romano in their study about student and teachers attitude towards handouts pointed out a interesting thing that students will not read their handouts unless they are motivated. If the quality of lecture presentation was poor or too lengthy then there is high likelihood that the handout will remain unread. Teacher’s are less aware about importance of a summary handout. A summary handout highlights the main points of a lecture. If the summary handout is prompt and up to the point, this will motivate the student and it may help the student to read more about the topic. The quality of reproduction has been shown to be an important factor in the acceptance or rejection of handouts. Some students have a tendency to leave their handouts untouched, and to open the handouts just before the exams. <sup>[13]</sup>

In the present study when students were provided with “short questionnaire” handouts (group A lectures ) the mean score of post test was 8.02 as compare with lectures where no “short questionnaire” handout was provided. The score without handouts was 6.25. The standard error of difference is 0.245 and the P value is 0.0003 which is significant. From the above

study we can recommend that not every handout is necessary for the students rather specifically designed handouts are important . A medical teacher should develop the skills to direct the students towards self directed learning and peer group learning. A self directive handout like “short questionnaire” is effective for didactic lectures of otolaryngology.

**Limitation of study:** Present study is the first phase of our long term study and hence the duration is small. It needs to be extended .Students and medical teachers from other medical colleges needs to be enrolled.

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