

# Computer Based Patient Education in Central India

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## Abstract

**Aim:** This study aims to find awareness of healthcare practitioners and students about computer based patient education in central India.

**Methods:** This study is based on questionnaire survey with a list of 8 questions. 250 doctors and medical students belonging to different areas of specialty were selected randomly from four different cities of central India. They filled out a questionnaire.

**Results:** It is found that 100% doctors and 97% students of central India are aware of the use of computer in health science. 96% of all healthcare workers are aware of computer based patient education method, however only 24% of them use the computer based patient education in their practice. 81% of doctors and 86% students agreed about high cost of computer based patient education. 49% doctors and 58% students agreed that patient to patient variations in psychology, socioeconomic status and education are the main reasons because of which computer based patient education is not used by them.

**Conclusions:** Healthcare practitioners and students of central India are aware of computer based patient education, but majority of them are not using it in their own practice. Hence healthcare practitioners of central India should be encouraged to use it. Undergraduate medical students found less aware about computer based patient education, so increase in awareness of undergraduate students is required in central India.

**Index Terms-** Computer based patient education, patient education, modern medicine, computers in medicine.

## I. INTRODUCTION

Healthcare practitioners are always surrounded with different machines. Computer is one of the machine on which a healthcare practitioner is dependent. Computer is used for various purposes in medicine and dentistry e.g. for maintaining patient records, for radiodiagnosis purpose, for patient communication purpose, for academic uses, etc. Till few decades back manual and conventional patient education methods were preferred, but in present era computer based patient education is first choice of healthcare practitioners. Lewis, D. (1999) concluded in his review article that computer based patient education has been shown to be very effective [1]. More patient understanding and interest is with the computer base patient education system regardless of their age, socioeconomic status and education [2]. Computer based instructions helps doctors to meet their educational responsibilities without decrement to the relationship of patient and doctors [3]. Computers based patient

education help patients to take better care of their conditions by providing access to the necessary information [4]. Increase in patient understanding is found with computer based patient education [4]. Computerized patient education methods are more efficient for doctors with busy clinical schedules having limited amount of time which they can spend with a single patient [4]. Because of multimedia, computer based patient education appears useful to educate patients [5]. This indicates that computer based patient education is very useful and comfortable to use in healthcare practice.

This study is performed to find the awareness of healthcare workers about computer based patient education method in central India and to find percentage of users of this patient education method. This study is also to reveal reasons of not using computer based patient education method.

## II. MATERIALS & METHODS

From 4 different cities of central India 75 doctors, 75 postgraduate students and 100 undergraduate students belonging to different branches of medicine and dentistry were selected randomly and a questionnaire survey is performed. Out of those 250 healthcare workers 175 participants belong to various branches of medicine and 75 participants belong to dentistry. As a part of survey the doctors and students filled out a questionnaire containing 8 questions that could be answered in "Yes" or "No".

The questions were

1. Are you aware of use of computer in field of medicine and Dentistry?
2. Do you know how a computer is used for patient education?
3. Do you feel computer based patient education is easier and useful than manual techniques of patient education?
4. Do you use computers for patient education?
5. Does cost of the computer based education system is a reason not to use it in clinical practice?
6. Do you feel that manual techniques are more useful than computer based patient education due to patient to patient variations in psychology, socioeconomic status and education in central India?
7. Are you interested to know different methods of computer base patient education?
8. Do you want to use computer based patient education method in future?

Question 1 & 2 were to find awareness of health science personals about use of computer in field of health science. Question 3 & 4 were to find use and benefit of use of computer in field of medicine and dentistry for patient education. Question 5 & 6 were to find reasons of not using a computer for patient education and question 7 & 8 were to find their interest to learn recent methods and to use computer based patient education system in future.

### III. RESULTS

Ninety-eight percent of health science persons were aware of use of computers in the field of medicine and dentistry (Fig 1). Out of them all the doctors and postgraduate students belonging to both medical and dental faculty were known with use of computers in their fields. 96% medical undergraduate students and 92% dental undergraduates were aware of use of computers in medical science. This shows that health science workers in central India have good awareness about use of computers in field of medical science.

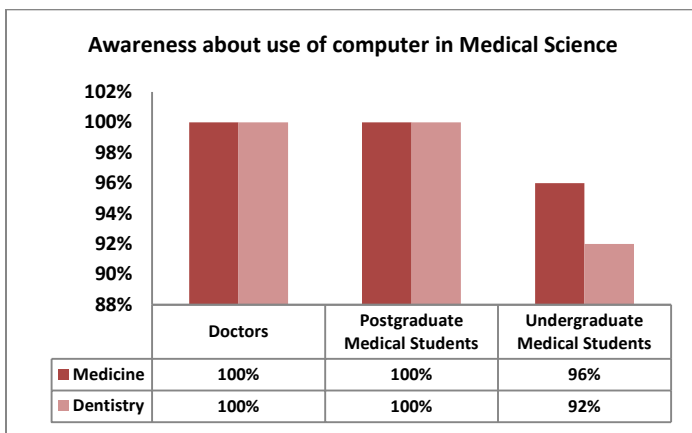


Fig 1 For those who answered “Yes” to the question: “Are you aware of use of computer in field of medicine and Dentistry?” (n=245)

Ninety-six percent medical science persons were aware of computer based patient education method (fig 2). 98% Medical Doctors and Postgraduate students knew how to use computer to educate a patient, while all the dental postgraduate students were aware of this. 96% of medical undergraduates and dentists were found familiar with knowledge of computer based patient education. While only 88% percent dental undergraduate students knew about usefulness of computer in patient education. This reveals the fact that more awareness programs are required so that undergraduate dental students get aware of usefulness of computers in Patient education.

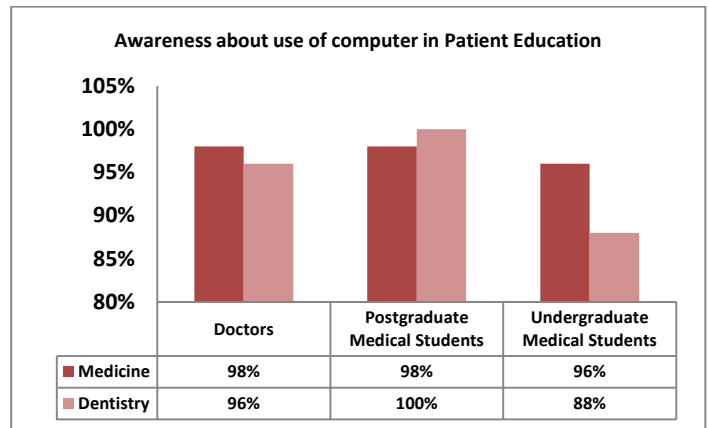


Fig 2 For those who answered “Yes” to the question: “Do you know how a computer is used for patient education?” (n=241)

In this survey 100% dental postgraduate accepted the fact that computer based patient education is more easy as well as useful (fig 3). But acceptance of usefulness of this patient education method was found less in undergraduate students, only 91.5% undergraduates accepted that it is more useful. This leads to conclusion that undergraduate medical students of central India require more awareness about usefulness of computer based patient education.

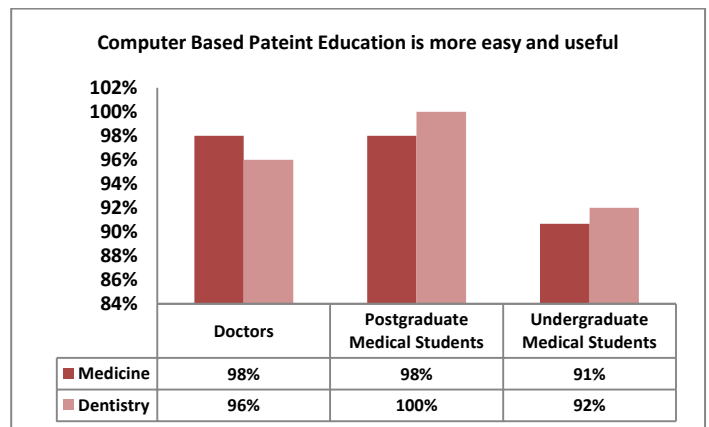


Fig 3 For those who answered “Yes” to the question: “Do you feel computer based patient education is easier and useful than manual techniques of patient education?” (n=238)

Figure 2 shows that 96% healthcare workers were aware of computer based patient education, figure 3 shows that 95% healthcare workers accepted the usefulness of this method. However figure 4 shows that in central India only 24% doctors and health science students use computers to educate the patients. Here, 20% medical while 32% dental doctors use computers for patient education in their practice. Same situation is with undergraduate and postgraduate students, only 26% of them use computer base patient education method.

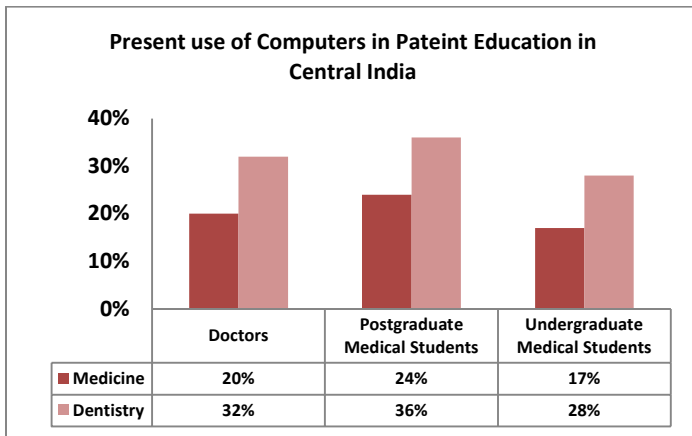


Fig 4 For those who answered “Yes” to the question: “Do you use computers for patient education?” (n=59)

Out of 96% aware healthcare workers only 24% use computer based patient education method. But the 5<sup>th</sup> question in list revealed the fact that 81% doctors feel that computer based patient education is costly as compared to manual methods while 86 percent of all students also have same thinking (fig 5). This leads to conclusion that cost of computer based education system is a really big problem for healthcare workers of central India.

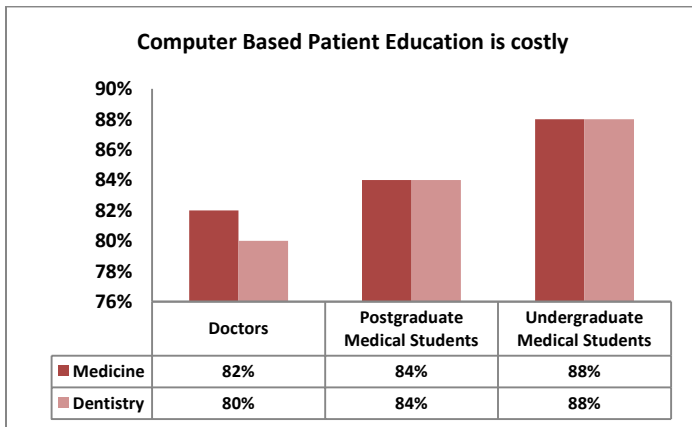


Fig 5 For those who answered “Yes” to the question: “Does cost of the computer based education system is a reason not use it?” (n=212)

Survey also revealed the fact that because of wide patient to patient variations in psychology, socioeconomic status and education level of patients, 49% doctors prefer to use conventional and manual methods of patient education, similarly 58% students found with same feelings (fig 6).

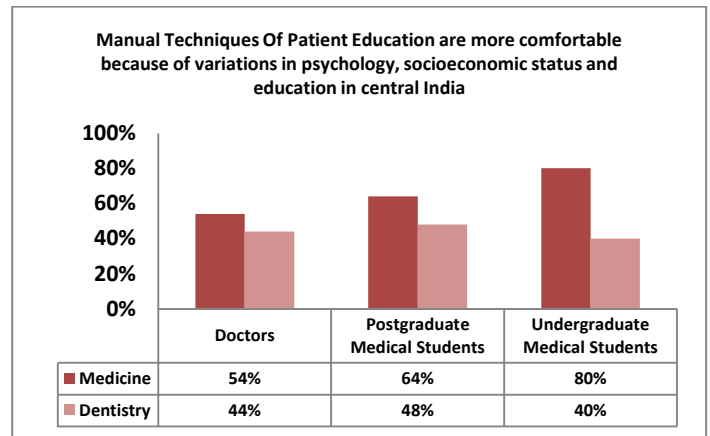


Fig 6 For those who answered “Yes” to the question: “Do you feel that manual techniques are more useful than computer based patient education due to patient to patient variations in psychology, socioeconomic status and education in central India?” (n=152)

This survey also clears that irrespective of cost of computer based patient education system and patient to patient variations, all the doctors of central India are very interested to know and to learn different computer based patient education methods, while 96% percent all students showed the same interest (fig 7).

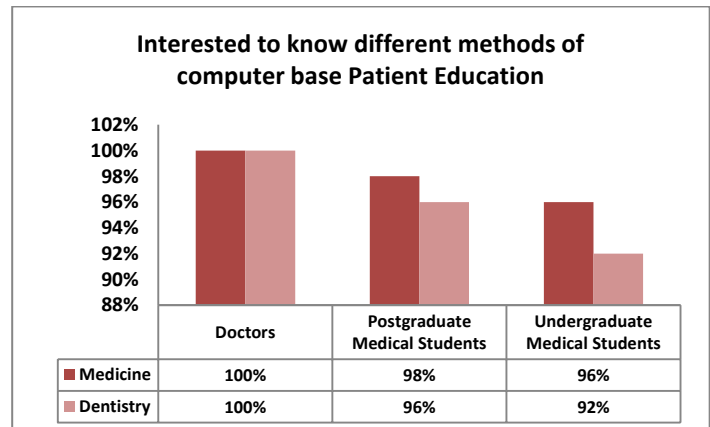


Fig 7 For those who answered “Yes” to the question: “Are you interested to know different methods of computer base patient education?” (n=243)

Although in central India cost of computer based patient education is more and there are wide variations in patient to patient psychology, socioeconomic status and education, 78% doctors and 88% students promised that they will start using computer based patient education techniques very soon in future (fig 8).

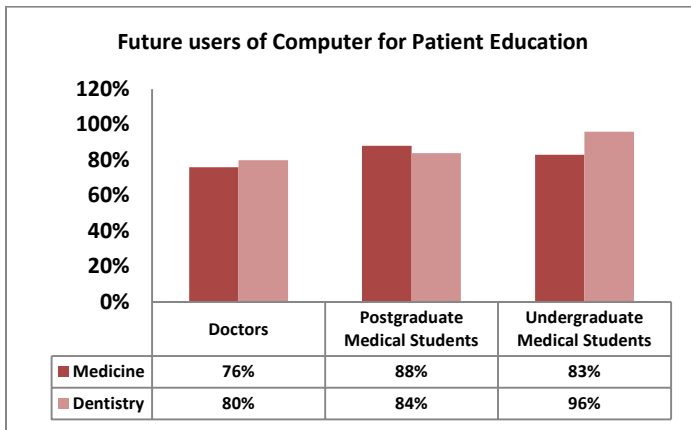


Fig 8 For those who answered “Yes” to the question: “Do you want to use computer based education method in future?”  
(n=209)

#### IV. DISCUSSION & CONCLUSIONS

This study shows that in central India almost all doctors and students are aware of computer and its use in medical science. Ninety-six percent healthcare workers know about computer based patient education method. And about 95% participants accept that computer patient education is a better choice. But only 24% of healthcare practitioners use computer based patient education. According to 85% participants high cost of computer based patient education system is a reason of not using this and 61% participants thought that there is a wide range of variations in psychology, socioeconomic status and education level of patients because of which they ignore to use computer based patient education method. But on the other hand they accept the usefulness of this method. And almost all are interested to know new and recent computer based patient education methods with the promise of using computer based patient education very soon in future. This study reveals the fact that health practitioner of central India should be encouraged to use computer based patient education and there is need of more awareness about usefulness of computer based patient education in undergraduate health science students of central India.

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