Perceptions of faculty and students regarding use of mobile apps for learning in dentistry: A questionnaire based study

Saee Deshpande[1,*], Ashita Kalaskar[2], Jaishree Chahande[3]

[1]Reader & PG Guide, [3]Lecturer, Dept. of Prosthodontics, VSPM Dental College & Research Centre, Nagpur, Maharashtra,
[2]Associate Professor, Dept. of Oral & Maxillofacial Radiology, Govt. Dental College & Hospital, Nagpur, Maharashtra

*Corresponding Author:
Email: drsaeedeshpande@gmail.com

Abstract

Mobile technology is changing the way we live, and it is beginning to change the way we learn. There is widespread use of mobile devices as reference and information management tools in clinical practice and medical training among healthcare professionals.

To assess the perception of faculty and students for the utility of mobile technology in their learning experience.

The study was designed as a descriptive questionnaire based study. Sample consisted of faculty & students of two dental colleges in Nagpur city.

Out of 118 faculty members 84 responded (response rate 71%) and out of 128 students 118 responded (response rate 92%). Majority of the faculty as well as the students used smartphones in daily life for the purpose of social networking and entertainment. Only a few of them used it for academics. Nearly half of them knew about different mobile apps in dentistry. Overall perceptions regarding use of mobile apps as teaching tool were positive.

Mobile app is a promising teaching tool that can be blended with traditional teaching for dental students.

Introduction

Healthcare education in 21st century has many unique features adopted with changing understanding of educational environment, improvements in technology and students' demands. Current teaching techniques have seen paradigm shift from teacher centric to student centric approach. Another important change is the increasing use of e-learning including mobile devices. They serve many purposes viz., educational activities to access course content, acquire information related to students' performance and to encourage discussion and sharing between students and teachers.[1]

However, successful integration of any new teaching- learning tool largely depends upon the end users i.e. faculty & students perceptions regarding its usefulness.

Therefore, present study was planned to assess perceptions of both students and faculty members about the use of mobile app in learning dentistry.

Methods

Present study is a descriptive study and pre-validated questionnaire was used as a method of data collection. Sample consisted of faculty members and interns (from academic year 2015-16) from two dental institutes.

Results

After giving the survey questionnaire, out of 118 faculty members 84 responded (response rate 71%) and out of 128 students 118 responded (response rate 92%). The detailed results have been reported in Table 1 & 2. In the present study, majority of the faculty as well as the students used smartphones in daily life for the purpose of social networking and entertainment. Only a few of them used it for academics. Nearly half of them knew about different mobile apps in dentistry.

Table 1: Characteristics of participants

Total No. of Participants				
Students	118			
Faculty	84			
Age				
Students	21±1.5 Years			
Faculty	37±7.5 Years			
Gender				
Students	Male	11	Females	71
Faculty	Male	36	Females	48

Do you use a smartphone?				
Students	Yes	77	No	5
Faculty	Yes	84	No	0
What do you use your phone for?	Social Networking		Academics	Entertainment
Students	77		5	69
Faculty	54		17	41
Have you come across any mobile learning app in dentistry?				
Students	No	77	Yes	41
Faculty	No	41	Yes	43

Table 2: Perceptions about utility of mobile apps

Question	Faculty					Students				
	SDA	DA	CS	A	SA	SDA	DA	CS	A	SA
Mobile apps are helpful in learning different aspects of clinical dentistry?	1	12	21	39	11			32	86	
Mobile apps allow students to learn at their own time and pace.	1	13	16	48	2			43	75	
Mobile apps promote self-directed learning in students.	1	22	31	27	3		23	36	59	
Mobile apps should be used along-with traditional teaching to improve educational outcomes.	0	10	13	45	16			32	86	
Mobile apps reduce the importance of traditional lectures and clinical postings	10	15	15	43	1		43	46	29	
For training freshly passed out dental graduates on clinical decision making mobile apps are very useful	2	23	18	39	2		42	7	69	

All the student respondents & 85% of faculty felt that Mobile apps are helpful in learning different aspects of clinical dentistry and allow students to learn at their own time and pace.

All the students and 90% faculty felt that Mobile apps should be used along-with traditional teaching to improve educational outcomes.

However nearly 45% of faculty showed their concern that apps reduce the importance of traditional lectures and clinical postings although only 20% students felt so.

65% of students and 54% faculty believed that mobile apps are very useful for training freshly passed out dental graduates on clinical decision making in different subjects.

Discussion

Many investigators have studied the uptake of mobile learning techniques across the globe. Medical students in the United Kingdom strongly agreed that having the internet on their smartphones had a positive impact on their dental education (55%). Also, Applications on smartphones are very popular and instant messaging is an upcoming form of communication for students.[2] In a study on Australian students concluded that students use smartphones and social media for their learning activities even though this technology has not been formally included in the curriculum, and perceive their smartphones as learning tools.[3] In Indian context Thakare et al reported that majority of the students use Smartphone mainly for communication, learning, and entertainment purpose.[4] With increasing use of portable devices by students, it is logical to expect the next step to incorporate these

devices in the learning environment and should, therefore, be appropriately considered for curriculum. Mohapatra et al summarized various mobile learning apps currently available in medical education. They emphasized that educator in medicine needs to embrace this new technology, study its further adoption, and assist in the responsible integration of these devices into the art and practice of medicine.[5]

Mobile devices such smartphones can have a significant contribution to modern health care education, since these devices might offer possibilities to enhance teaching and learning. Apps are software programs that have been developed to run on a computer or mobile device to accomplish a specific purpose. As with every technology, however, understanding the skills of the main users and their attitudes toward the new tool is of fundamental importance, in order to guide development of appropriate educational innovation. Apps incorporating wide variety of patient cases can be effectively used to overcome the problem of paucity of good clinical material so that students get the knowledge & exposure which is essential for developing clinical decision making skills.

In the present study, both faculties as well as students are using mobile devices routinely. However, it's not for the purpose of academics. More than half of them are not aware about the fact that mobile apps are available for learning dentistry. However, their perception about the role of mobile learning is positive. There is a need to create awareness regarding the scope of mobile leaning opportunities amongst students and faculty alike.

One concern expressed by faculty members was that the use of mobile apps for learning can reduce the importance of traditional techniques. It can be addressed by using blended learning techniques which use both of them effectively.[6]

Limitations of this study

This investigation is limited to two institutions and students from one academic year (interns), a broader sample including many institutions with more number of students is desirable.

Conclusions

Within limitations of this study it can be concluded that smartphones are commonly used by faculty & students and their attitudes towards use of apps as learning medium are also positive.

References

1. Ventola CL. Mobile Devices and Apps for Health Care Professionals: Uses and Benefits. Pharmacy and Therapeutics. 2014;39(5):356-364.
2. Bullock A, Dimond R, Webb K, Lovatt J, Hardyman W, Stacey M. How a mobile app supports the learning and practice of newly qualified doctors in the UK: an intervention study. BMC medical education. 2015 Apr 8;15(1):1.
3. Rung A, Warnke F, Mattheos N. Investigating the use of smartphones for learning purposes by Australian dental students. JMIR mHealth and uHealth. 2014 Apr;2(2).
4. Thakre SS, Thakre SB. Perception of medical students for utility of mobile technology use in medical education. International Journal of Medicine and Public Health. 2015 Oct 1;5(4):305.
5. Mohapatra DP, Mohapatra MM, Chittoria RK, Friji MT, Kumar SD. The scope of mobile devices in health care and medical education. International Journal of Advanced Medical and Health Research. 2015 Jan 1;2(1):3.
6. Deshpande S, Lambade D, Chahande J. Development and evaluation of learning module on clinical decision-making in Prosthodontics. The Journal of Indian Prosthodontic Society. 2015 Apr 1;15(2):158.