

To Assess The Impact Of Whatsapp As A Medical Teaching And Assessment Tool In Comparison With Traditional Lecture Methods For Undergraduate Students In General Surgery

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Abstract

Background: WhatsApp is, a social network used as a communication tool to keep people connected by sharing communications, pictures, and videos, for both personal and professional reasons. With recent advances in networking and free WIFI on campus, it can be used as an effective medium for teaching several domains of medical training.

Objectives: To assess the impact of WhatsApp as a medical teaching and assessment tool in comparison with traditional lecture methods and to assess the impact of medical students' outcomes in learning.

Methodology: Prospective interventional study, in which hundred prefinal year medical Students were grouped into two groups of 50 students each. One group with WhatsApp learning and the other group only with didactic lectures on four modules. The outcomes of the two groups analysed teaching-learning tools using a prevalidated Google feedback form.

Results: It was observed from the study that there was a significant difference between the use of WhatsApp and traditional lectures as a teaching-learning method. Most students considered that WhatsApp helped to increase their enthusiasm for the topic, making the topic easy to understand with videos and online question-answer sessions along with feedback. simple and increased interaction between students and facilitators

Conclusions: Our study findings conclude that WhatsApp as a teaching-learning tool was Found More effective than non-interactive didactic lectures...

Keywords: WhatsApp, Teaching Learning Tool, Didactic lecture, surgery students, interactive.

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I. Introduction

Integration of WhatsApp into medical education can bring various benefits to both medical students and teachers as well.¹ This application allows instant messaging allows help in convenient time communication, collaborating with other faculties as we students, sharing of resources, enhancing engagement, and promoting active learning. The added benefit of using this application can be particularly useful for students who are time-constrained to meet the teachers in the subject, and mentors in person due to other commitments². It allows both the students and teachers better collaboration, and a better understanding of the individual students' needs and encourages teamwork, regardless of physical location. WhatsApp can be used as a teaching-learning tool effectively in addition to feedback and assessment of students in surgery. Asynchronous, self-paced learning makes the WhatsApp app an important tool in doing assignments for making them learn topics of importance online, in their own time ³ What's App is used as an instant communication online service for various purposes by different walks of life. It allows teachers to be available for the students to clear doubts and feedback on their level of understanding of the topic discussed.1 With the introduction of Competency-based medical education by the National Medical Commission in India, teaching has transformed into pedagogical, more interactive assessment-based, in addition to classroom teaching.⁴The present surgical educational program is a time-based module, that trains surgical students to integrate themselves seamlessly in the multidisciplinary care of surgical patients.⁵ Developing a universally acceptable curriculum for surgical students training based on competency-based medical education (CBME) and integrating it into local population needs can influence the surgical teaching for the students ready to tackle them. However, successful implementation of the CBME-based surgical undergraduate training curriculum requires an innovative approach like an online teaching tool to ensure that this framework produces competent students who meet the local needs.⁶

II. Materials And Methods

An Interventional study was conducted after getting clearance from the institutional ethics committee from March to September 2024 for pre-final year MBBS students using a universal sampling method with 100 prefinal students in surgery, participating in the study. Students were randomly divided into 2 groups with 50 students group A and group B. Students in group A were added to WhatsApp group A and similarly, Students in Group B were added to WhatsApp group B. Two study modules were prepared containing important topics from general surgery. Module 1 had two topics from Breast and thyroid and Module 2 had two topics on Stomach and colorectal. Students in Group A received the learning materials related to Module 1 through WhatsApp in the form of messages, notes, videos of topics with assignments and feedback by Google feedback form. Students in Group B were taught the same topics through classroom teaching, written assignments, and oral feedback. Students in Group B received the learning materials related to Module 2 through WhatsApp in the form of text messages, photos, videos and learning materials including PowerPoint presentations and Students in Group A were taught the same topics through the lecture method. Both the groups were assessed at the end of 4 weeks, related to both modules using Multiple choice questions, consisting of objective type questions. Perception of students regarding the use of WhatsApp as a learning tool was collected through the prevalidated feedback form consisting of questions regarding the advantages and challenges of using WhatsApp as a teaching-learning tool. Data collected was analysed by using descriptive statistics like mean, standard deviation and inferential statistics in the independent test. Likert scale was used to assess students' perceptions.

III. Results

Of the 100 students who participated in the study, 50 were part of WhatsApp group A and 50 were part of WhatsApp group B. Among 100 students, all hundred students who attended all the classes and assessments were included for summative analysis. It was observed from the study that for module 1, the mean score of students who were taught through WhatsApp (6.00) was higher than those who were taught through the classroom teaching alone method (5.49) whereas, for module 2, the mean score of students who were taught through WhatsApp (6.50) was slightly higher than those group of students who were taught through lecture method (6.01).

Table 1: Comparison of marks obtained by students in two different teaching-learning tools

S. No.	Module	Teaching learning tool	Mean (10)	SD	Unpaired t test
1.	Module I	What's app	6.00	2.07	p=0.2723
		Classroom	5.49	1.94	t.=1.1067
2.	Module II	What's app	6.52	1.27	p=0.8223
		Classroom	6.01	1.18	t=0.2253

Table 2: Advantages of WhatsApp as a teaching-learning tool

S.N.	Advantages (Technological)	Agree	Neutral	Disagree
1.	WhatsApp is easy to use	94(90%)	5(5)%	1(1)%
2.	Freely available and downloadable 0(0%)	100(100 %)	0(0%)	0(0%)

3.	Provides privacy to the user	92(92%)	3(3%)	5(5)%
Advantages of Institutional/Individual				
	Provide comfortable environment	68(68%)	28(28%)	4(4%)
	Easy accessibility to material	62(62%)	27(27%)	1(1)%
	Facilitator's availability	80(80%)	20(20)%	0(0)%
	Asynchronous learning	93(93%)	4(4)%	3(3%)

IV. Discussion

Our study substantiates that properly chosen topics can use the application of social network tools like WhatsApp as a teaching learning and training tool. This hybrid method of teaching complements equally effective as a didactic lecture since we found significant differences observed between two teaching-learning methods. Gon S et al., also in their study found that there was no significant difference between knowledge gained from didactic lectures and WhatsApp in teaching pathology which is a non-clinical subject, where it might have been difficult for the students to understand the features of pathology without the presence of teacher⁷. Whereas in a subject like surgery where all students cannot be accommodated to see a live procedure, sharing videos for educational purposes might help, if proper Most of the other studies involving WhatsApp as a teaching-learning tool had used WhatsApp-based teaching as a supplement to didactic lecture. Dyavarishetty PV et al., in their interventional study to test the effectiveness of WhatsApp in teaching community medicine, observed that there was a significant improvement in students' knowledge following teaching through WhatsApp.⁸ Similarly, studies conducted by Mohana Krishnan K et al. among medical students noticed that WhatsApp intervention has produced a higher performance level than using didactic lectures alone.⁹ Indu M et al., also found that there was a significant improvement in the mean score of students who received learning materials through WhatsApp in supplementation to the conventional learning methods.¹⁰ The majority of students in this study agreed that WhatsApp is simple to use, easily available and downloadable and provides privacy to the user. Most of the students also perceived that WhatsApp helped to improve their enthusiasm in academics along with making difficult concepts simple and increasing interaction between students and facilitators. High expectations of teacher availability and group maintenance were the most agreed challenges in the use of WhatsApp as a teaching-learning tool¹¹. In a study done by Gon S et al., most of the students agreed that WhatsApp is simple to use and easily available and downloadable but most students agreed that it is free of charge on campus. Interaction between students, sharing of learning materials, easy accessibility to learning material, and immediate clearing were the other educational advantages with most students agreeing to it. Message flooding, time consuming and eye strain were common disadvantages observed in their study. Therefore, while our findings highlight the convenience, efficiency, versatility and popularity of WhatsApp®, they also suggest that it may be an effective educational tool. The study population included only current second-year students in one medical college, hence it cannot be generalized to the entire group of medical students also the experience and personality of the faculty might have influenced students in the group of students taught through the lecture method. Recommendations: Innovative teaching-learning methods and tools should be incorporated into medical education to overcome the problems faced in the changing scenario in medical education. E-learning / M learning should be included as a teaching-learning tool in undergraduate medical education, it will be useful especially during certain scenarios when a large gathering of students is preferably avoided. Implementation of WhatsApp-based learning can overcome the shortage of time. Further studies should be conducted involving a larger population and other departments in different phases of the MBBS course.

V. Conclusions

From the study findings, we can conclude that the use of WhatsApp as a teaching-learning tool is more effective and complements the didactic lecture since a significant difference was observed between the two teaching-learning methods. The constant availability of facilitators and learning anytime and anywhere makes WhatsApp a convenient tool for teaching and learning activities. Using WhatsApp as a supplement to lectures could further improve the academic performance of the students.

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