Original Article

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Anatomy Section

Perceptions of First Year MBBS Learners on the Use of WhatsApp Groups as an Adjunctive Tool to Facilitate Learning in Anatomy- A Cross-sectional Study

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ABSTRACT

Introduction: The abundant usage of mobile devices, its applications and access to information has changed the learners' way of study, communication and work. Structured and strategically planned usage of this application would support traditional teaching and learning. Based on this widely used WhatsApp social network has been chosen for complementing learning of Anatomy amongst the learners of first year MBBS (Bachelor of Medicine Bachelor of Surgery).

Aim: To assess the first year MBBS students learners' perceptions on WhatsApp group discussions conducted during their study period in Anatomy.

Materials and Methods: A cross-sectional study was conducted at Government Medical College, Nizamabad, Telangana, India, in which all the first year MBBS learners (100) of Anatomy from September 2016 to May 2017 and which were on WhatsApp group were included. Discussions using mobiles with facilitator and later perceptions of the learners with a questionnaire were analysed on the implementation and utility of the application.

Results: A total of 98 learners answered the questionnaire on perceptions. A 91% of learners admitted that the application was useful to them by >50%. It was observed that 87% of learners were able to communicate with peer group and with their co-learners. A total of 95% felt this could be done with every subject and continued for juniors too with an added advantage of learning academics. A total of 84%, 94% and 95% of learners felt it helped them to prepare for theory, practical and viva-voce exams, respectively.

Conclusion: The study concludes that the WhatsApp group discussions can be continued to inculcate learning environment amongst the learners in Anatomy and it should be combined with traditional teaching to enhance learning.

Keywords: Mobile technology, Self directed learning, Social networking, Smart phones usage, WhatsApp group discussions

INTRODUCTION

The mobile phone has become the central part of every student's life. Mobile phones give the liberty to connect with anyone around the world spontaneously. They empower us to find any information we require and are a great source of entertainment. While this device was designed to empower us, badly, it's turning out to subjugate us. Almost every mobile user is suffering from the addiction of mobile these days. Almost every learner is having smart phone in the modern era and learners browsing for hours are expected to be normal but in reality it is having marked behavioural, educational and social impacts [1].

Most (95%) of the students use smartphones for communication, entertainment and for learning purpose [2]. In the present academic year of Undergraduate Curriculum, Medical Council of India has recommended to implement Self Directed Learning as a regular process to make the learner experience self-learning and make these sessions a part of teaching learning process [3]. Davies BS et al., formulated a model of learning facilitated by smartphone devices [4].

Nonaka proposed a theory for the creation of knowledge. This follows that "explicit" knowledge i.e., core knowledge base is obtained prior to becoming "tacit" knowledge [5]. Tacit knowledge is created through experience and practice. Explicit knowledge can be attained quickly through portals of smart phone apps in bed side clinics which can further be applied in any given clinical scenarios. This creates effective learning environment and balance between the implicit and explicit knowledge.

Most common mobile app used is WhatsApp messenger in India for communication [6]. It was observed from the past few years that most of the learners were spending their time on mobile which was a common complaint of parents when called for parent meet. Mobile usage cannot be withdrawn from learners as it has advantages too mainly communication and safety. So, it must be used in a friendly way and why not with education which traditional teachers feel difficult to accept. Imparting knowledge by the faculty to the new technology driven generation of medical students has become a problem of generation gap issue [7]. This stimulated the author to conduct WhatsApp group discussions on the current topics done in traditional learning. Podcasts of medical information through internet has been already practiced by the Universities in the West, however this is so new in a country like India [8].

Henceforth, the WhatsApp group messenger app has been selected for discussions and communications with students to facilitate learning and as an adjuvant to traditional learning in the Department of Anatomy. The aim of the present study was to assess the first year MBBS students learners' perceptions on WhatsApp group discussions conducted during their study period in Anatomy.

MATERIALS AND METHODS

A cross-sectional study was conducted at Government Medical College, Nizamabad, Telangana, India. The study was carried for a period of nine months (from September 2016 to May 2017) with a sample size of 100 including all the learners of first year MBBS. The ethical clearance taken from Institutional Ethics Committee (Approval no. APMC-42396).

Inclusion criteria: All the learners of first year MBBS attending the Anatomy discussions were included in this study.

Exclusion criteria: Learners not willing to participate in the study were excluded in this study.

Study Procedure

Learners were informed and written consents were obtained for voluntary participation. Participants consented to have their mobile phone numbers made accessible to the facilitator. All learners agreed to participate were included in the WhatsApp group. A 95 learners had smartphones. The learners who did not have smartphones were linked up to their friend's mobiles with a half an hour usage per day to create uniform learning amongst the entire batch. All the learners were divided into four groups of 25 each and created four WhatsApp groups. Each group had a trained facilitator with 25 learners. One of the learners was made admin of the group along with facilitator. Apart from regular traditional teaching the interaction between learner and teacher took place through these groups. The facilitator used to post the dissection videos, clinical anatomy related questions, some case scenarios/pictures/X-rays, histology slides. They were also instructed to draw diagrams related to concepts and post them. Care was taken to have uniformity amongst the facilitators in all groups.

Each group was sub divided into five subgroups (A, B, C, D and E). Each subgroup was given a different work with observation of all works by all of them. Subgroup works were A- Answer questions posed by facilitator, B- Ask queries in the group which can be answered by other learners and if not by facilitator next day, C- Given task of drawing diagrams, D- Have to post important concepts, E- Co-ordinate all works and observe. The tasks allotted for each subgroup was changed every day. One day was given for their own creativity in the group with subject and interaction with facilitator on any problems they encounter. One day was also given to the facilitator to carry on his/her own discussion which is important for group or any general recommendations on that day. The group discussions were continued for nine months. At the end of nine months, the learners' perceptions related to varied aspects of WhatsApp assisted learning was documented using a questionnaire. The questionnaire included 14 closed-ended questions to be answered in Likert type scale and two open-ended questions were given [2,9]. The questionnaire was prior validated by peer group of 20 faculty from Medical Education Unit, Social and Preventive Medicine (SPM) and Anatomy. Each question was to be rated in the scale of percentages. The percentages taken in Likert scale were 1 (<50%, very low), 2 (51-60%, low), 3 (61-70%, moderate), 4 (71-85%, high), 5 (86-100%, very high). Responses to the open-ended questions were qualitatively analysed.

The students were well informed beforehand about the questionnaire to clear their doubts about each of these 14 points. The time given for answering the questionnaire was one hour.

They were also asked to narrate their experiences and suggestions about the implementation of program. The observations were analysed and tabulated in results section. No software statistics was needed as it was perceptions of all students without any control group.

STATISTICAL ANALYSIS

The outcome of the questionnaire was analysed statistically with percentages.

RESULTS

Out of 100 learners 54 were boys and 46 were girls. The average age of the learners was 18±1.67 years. Out of 100 learners, 98 have answered the questionnaire. The perceptions of WhatsApp groups-a mobile application indicate that the learners have widely accepted this as a second class educational experience as per statistics >50% by 89 (90.8%) learners. About 92 (93.8%) of learners found this application pocket friendly to them to an extent of >50% [Table/Fig-1].

Some of the learners' experiences were: 1) Group discussions helped us to a large extent; 2) It was useful to understand clinical concepts; 3) Clinical scenarios posted created interest to learn more; 4) We got platform to ask questions which we could not get in the classroom; 5) It was wonderful experience to find out answers in the text and browse through the net; 6) Groups became more active when exams were there; 7) We realised that our practical knowledge was not up to the mark and we tried to improve; 8) The dissection videos posted were very helpful; 9) We need still more discussions; 10) I was afraid of asking questions initially but later got used to it; 11) The discussions helped to answer viva voice well; 12) The diagrams drawn created an interest; 13) Whenever the interest dropped these discussions helped us to stay motivated.

Some of the suggestions given by learners were: 1) Increase the number of questions; 2) Give assignments; 3) Do post-Multiple Choice Questions (MCQs); 4) The discussion should be faster; 5) We need more dissection videos; 6) We also want more seminars; 7) We need such type of discussions in future and also with other subjects too; 8) We recommend it for our juniors too.

DISCUSSION

The present study proves that WhatsApp communication through mobile is the most common, comfortable, pocket friendly and feasible tool for adjuvant learning. A relevant study concluded that in terms of ubiquitous availability and collaborative learning, WhatsApp based mobile learning emerged as an excellent adjuvant [10,11]. Learners are using social media now-a-days for augmenting their learning apart from entertainment. Students' view towards social media and medical education has changed, sharing a stronger

Questionnaire for students based on likert scale	<50%	51-60%	61-70%	71-85%	86-100%
Likert scale points	1	2	3	4	5
How far the mobile application was useful to you?	9 (9.18%)	19 (19.38%)	26 (26.53%)	28 (28.57%)	16 (16.32%)
To what extent did the application guide you in acquiring knowledge about the topics?	8 (8.16%)	25 (25.51%)	33 (33.67%)	19 (19.39%)	13 (13.26%)
Did the group helped to clear your queries?	9 (9.18%)	25 (25.51%)	21 (21.42%)	18 (18.37%)	25 (25.51%)
The group helped you to communicate easily with faculty to what extent?	13 (13.26%)	29 (29.59%)	15 (15.3%)	15 (15.3%)	26 (26.53%)
The percentage of promotion of discussion with other students regarding the topic?	6 (6.12%)	29 (29.59%)	29 (29.59%)	20 (20.4%)	14 (14.23%)
The group promotes you to what extent in writing theory exams?	15 (15.3%)	26 (26.53%)	26 (26.53%)	14 (14.23%)	17 (17.35%)
The group promotes you to what extent in practical exam?	6 (6.12%)	26 (26.53%)	29 (29.59%)	19 (19.39%)	18 (18.37%)
The group promotes you to what extent in viva voce?	5 (5.1%)	17 (17.35%)	32 (32.65%)	22 (22.45%)	22 (22.45%)
To what extent was the application pocket friendly to you?	6 (6.12%)	22 (22.45%)	33 (33.67%)	16 (16.32%)	21 (21.43%)
Do you want it to be continued to your juniors?	5 (5.1%)	9 (9.18%)	13 (15.3%)	19 (19.39%)	52 (53.06%)
The concepts were made clear to what extent?	7 (7.14%)	31 (31.63%)	24 (24.49%)	22 (22.45%)	14 (14.29%)
The percentage of self-directed learning it could inculcate in you	8 (8.16%)	25 (25.51%)	22 (22.45%)	25 (25.51%)	18 (18.37%)
Can it be continued with other subjects?	7 (7.14%)	10 (10.2%)	16 (16.32%)	22 (22.45%)	43 (43.88%)
The extent to which the group helped communication among the students?	12 (12.24%)	20 (20.4%)	31 (31.63%)	24 (24.49%)	11 (11.22%)

[Table/Fig-1]: Students learning experience with WhatsApp group discussions.

desire for using social media to augment their learning. In relevant study by Cochrane T et al., they agreed that use of smartphones and emerging technologies help students in improve learning and are resourceful in higher education [12].

The present study showed 88 (90%) of learners accepted the WhatsApp group discussions which made them to stay motivated, creative, and self directed to learning process in anatomy as an adjuvant to traditional teaching. Similar study by Roy H and Ray K highlighted firstly, the WhatsApp based teaching plan was well accepted by the students, provoked and promoted them for self-directed learning in anatomy for first MBBS students; in supplemental to the traditional class room teaching [9].

A total of 92 (94%) learners opined that the discussions helped them to improve their practical knowledge. Learners said they could interact and communicate with faculty as well as their colleagues. Huda M et al., stated in their study that strengthening practical and relational value with faculty helps in maintaining connection to facilitate the sensitive issues disclosure which is expected to help students to solve their academic issues [13].

It was observed that 83 (84%), 92 (94%), 93 (95%) of the learners opined that the application was helpful to an extent of >50% in training them to theory, practical and viva-voce exams, respectively. This infers that the application was mostly helpful to practical and viva-voce exams. Dewah P and Mutula S reported in his study that use of social media apps on mobile phones is becoming popular among educators to share academic information. Students also agreed that the relevant curriculum was covered in discussions which helped them to prepare for their examinations [14].

Around 85 (87) of the learners submitted that the application was useful to communicate with the faculty and promoted academic discussions with other students. The communications which were not possible in classroom due to anxiety were easily done through this social media. The faculty also communicated easily for any updates. Scornavacca E and Huff S in his study stated that mobile learning has been shown to have efficacy within the traditional classroom environment, and brief communications via Short Message Service (SMS) supplement interactive classroom sessions, resulting in enhanced interest in and attention to classroom activity [15].

It was observed that 92 (93%) of learners suggested that similar discussions if continued with other subjects too would be beneficial. 96% promoted it to be continued for juniors too. It was also observed that informal learning takes place through mobile rather than formal learning. Pimmer C et al., in his study stated that in clinical environments, many of the undergraduates used their mobiles to take photographs and record videos of special cases, procedures, or instruments, such as in the operating theatre or in the dissection room [16].

Limitation(s)

There was no control group in the study. Subjects were only from one medical school and results may vary in different medical schools and hence results cannot be generalised.

CONCLUSION(S)

The present study shows that learners have adopted quickly to use their most common communicable WhatsApp through mobile technology for academic purpose acting as an adjuvant to traditional learning. The WhatsApp group discussions allowed the learners to refresh their knowledge, clear their queries, communicate with peer group and co-learners, stay motivated, understand analytical concepts, prepare for theory, practical and viva-voce exams and engage themselves with educational content on social networks. This can be recommended regularly as an adjunctive tool to traditional teaching for every batch in future.

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