



Use of Youtube as Educational Tool among Medical Students of College of Medicine at Qassim University

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Abstract

Purpose: This study aimed to evaluate how many medical students depends on YouTube medical videos as resources of their medical knowledge. **Methods:** This was a cross-sectional study with a convenience sample and validated questionnaires were distributed to medical students anonymously from the students on the medical college of Qassim University in Saudi Arabia. The study includes all male medical students and excludes the females medical students and staff members. The total number of medical students is 191 students. **Results:** Up to 95.3% (n= 182) of the total sample use YouTube in their education. The majority of them believe that the medical videos more understandable compared to the written lectures. Also, many students usually sharing medical videos with their colleagues. In addition, around 70% of students think that YouTube medical videos help in relating basic and clinical sciences together. **Conclusion:** Today social media have very important role in learning and YouTube one of the most important and effective websites in learning especially in medical field. But still the students need a specific website for medical videos under the organization of specialized tutors. In addition, medical colleges need to encourage social media usage in education.

Keywords: Medical education, Social media, Medical students.

Introduction

Social media is one of the most powerful tool of communication on 21st century, and it includes application designed and web tools to facilitate online interaction and sharing information^[1].

The role of social media usually varied, it helps people sharing their interests, advocate about topics of concern and communicate with each other, as well as gives them the freedom to express their opinions and emotions also patients commonly use websites like MySpace, Facebook and YouTube to share personal ideas about their diseases^[2]. One of the studies in UK mentions: the using of YouTube changed by the time, so the videos on YouTube were about sharing home-made videos, but nowadays a lot of YouTube videos is being generated by business, political parties and educationalists^[3]. The same study in UK found that there is increasing and developing of students critical awareness and facilitated deep learning also, the students can use these videos at any time and at any place^[3]. Another study in UAE about anatomy education proved that the using of online social networks enhance and remodel teaching and learning of anatomy^[4]. In addition, this study conducted on 91-second year medical students where the results demonstrated that 98% of the students used YouTube as a resource of their information, and 92% of the students who used to study from Human Anatomy Education (HAE) channel agreed that the channel helped them to learn anatomy^[4]. In KSA, a study done on 657 students from 23 different medical school found that the

YouTube is the most common website used by medical students^[5]. In Taibah University: a meta-analysis done for the usage of social networking sites (SNSs) by medical students for educational purposes, and the results was 75% of them admitted using SNSs, and 20% used SNSs for sharing educational and academic information^[6]. In the other hand, a study done about physical examination videos on YouTube found a small number of these videos were educationally useful, and these videos used by some medical students and teachers as resources^[7].

A YouTube analysis data for one year (Feb 1, 2016 to Jan 31, 2017) collected on YouTube channel called Osmosis, the channel had 105,117 subscribers and 5,226,405 views for 20,153,093 minutes^[8]. The same study mention: the number of videos increased 4.8 fold from Feb 2016 to Jan 2017, and increase the monthly views 50 fold and subscribers 117 fold, so the content of medical education on YouTube can immediately and easily reach a global viewership with pertinent content^[8]. Social media like blogs, networking, wikis and YouTube are the most common collaborative and participatory approach to development of knowledge^[9]. However, the YouTube videos on drug elimination and pharmacokinetics showed a range of variability regarding their contents and educational usefulness, so the medical educators must be aware of the influence of these videos on student's understanding of drug elimination and pharmacokinetics^[10].

Subjects and methods

Cross sectional analytic study with a convenience sample used to evaluate how many medical students depends on YouTube medical videos as resources of their medical knowledge. The written questionnaires distributed along with an invitation cover letter to medical students from first to fifth medical year on the medical college of Qassim University in Saudi Arabia from 15th of April 2018 to 15th of May 2018.

The students invited to anonymously and voluntarily share on a validated questionnaire, it consist of different parts: the personal data including age and level of study; details using of YouTube medical videos including how frequency using and the most important medical sciences that they looking for; their opinions about YouTube medical videos influences on learning. A Likert type scale used in some questions of the questionnaire where (a) means strongly agree, (b) means agree, (c) means undecided, (d) means disagree and (e) means strongly disagree. The study includes all male medical students actively attending teaching activities and excludes the females medical students and staff members. The total number of medical students is 191 students. The collected data analyzed by SPSS software version 16.0 (IBM Corp., Armonk, USA). P value < 0.05 considered statistical significant.

We classified the students according to their medical year from first to fifth year. Students study basic sciences in their first 3 years such as physiology, pharmacology, pathology, and anatomy. The last 2 years the students study clinical sciences such as medicine, pediatric, orthopedic, and surgery.

Result

The total number was 191 students all of them from medical college of Qassim university Saudi Arabia. The majority of them from the basic level presented 66% (n= 126), while the student from clinical level presented 34% (n= 65).

Up to 95.3% (n= 182) of the total sample use YouTube in their education. In addition, the frequency of using YouTube illustrated in Fig.1. Moreover, there are a significant differences between specific medical sciences that the students looking for in YouTube, for example 57.1% (n= 109) searching about subjects related to pathology. Furthermore, 53.4% (n= 102) usually watch physiology videos, (49.7% n= 95) interesting about anatomy medical videos, while (27.2% n= 52) looking for biochemistry titles,

Table 1: Demographic Details of Participants

Characteristic	No. (%)
Age	
19-21	67 (35.1%)
22-24	106 (55.6%)
25-27	18 (9.3%)
Medical year	
First ^a	32 (16.8%)
Second ^a	38 (19.9%)
Third ^a	56 (29.3%)
Fourth ^b	19 (9.9%)
Fifth ^b	46 (24.1%)
Total participants = 191	

^a Basic years (first, second and third year level). ^b Clinical years (fourth and fifth year level). P value < 0.05 considered statistical significant.

Also, (26.7% n= 51) search about pharmacology subjects, and (14.1% n= 27) looking for histology and microbiology videos. The

majority of students believe that the medical videos more easy to understand in compare to written lectures and useful to review the important topics before the exams Fig. 2.

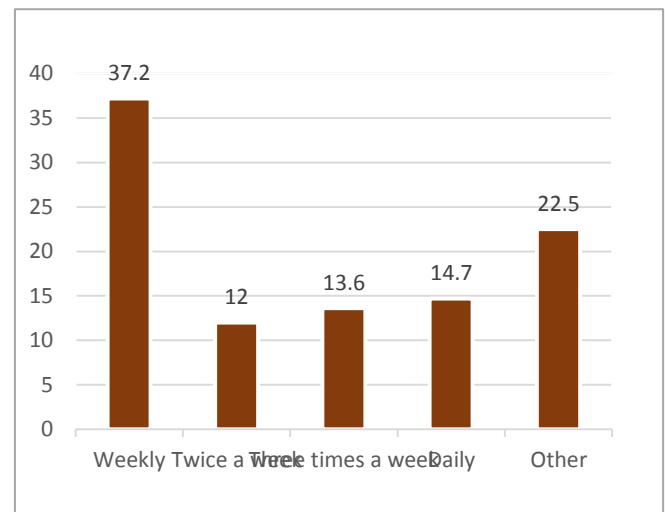


Fig. 1: frequency of YouTube usage in learning (n=191)

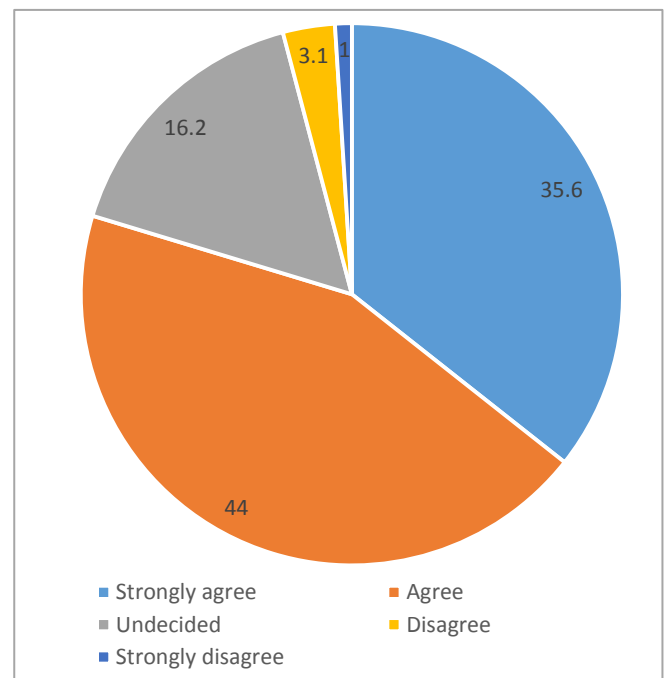


Fig. 2: The medical videos more understandable than lectures (n=191)

In addition, around 70% of students think that YouTube medical videos help in relating basic and clinical sciences together. Furthermore, 93% (n= 178) believe that YouTube medical examination videos helping them to understand the physical examination and techniques. However, many students about 58% disagree when we asked them about staff members utilizing social media in education effectively.

In the other hand, 60% (n= 116) do not agree for making YouTube medical videos as main sources of their medical knowledge. However, the majority of them denied using any other websites. Still about 50% of the students watching some medical channel on YouTube like (Osmosis) which making many medical videos. Furthermore, many students usually sharing medical videos with their colleagues. However, from all the videos that they usually watch, the majority of them believe that only less than 20% of these videos related to medical issues.

Discussion

This study showed that YouTube medical videos commonly used as educational tool among medical students of college of medicine at Qassim University in Saudi Arabia. Of all students, about 95% use YouTube in their education. However, many of them don't trust these videos as main source due to unsupervised nature of content and low educational value which approved by Sutherland et al. study^[11].

Searching about specific topics on YouTube, it is much easier than other websites. Also, YouTube is better interaction among users and integration of information when compared to e Medicine articles and textbook, as stated by Alsuraihi AK^[5]. Using YouTube as educational tool has not adequately studied in Saudi Arabia, even with the huge growing of internet using recently in KSA.

Due to low educational value of some videos, we recommend to create a specific website for medical videos under organization of specialized tutors to supply the students with supervised videos. Furthermore, Assadi and Gasparyan^[12] suggested making mega platform with specialized video editing and publishing containing PowerPoint slides of figures, specific animation and cartoons, short videos (5-15 min) and interactive lectures. We found the majority of the students using YouTube as part of collaborative between them and also as participatory approach to improve their knowledge similar to Bullock^[9].

Still many students in our study believe that a lot of their tutors not using social media in education effectively, which does not match with the results of Moran^[13], which found the majority of teaching faculty in general used social media in their class sessions. One of the possible constraints in our study is uncompleted or refuse filling of questionnaire from some students, and they already excluded from the analysis.

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Appendix 1: Research questionnaire.

1-Age:

2- Which medical year?

- (a) 1st medical year
- (b) 2nd medical year
- (c) 3rd medical year
- (d) 4th medical year
- (e) 5th medical year

3- Do you use YouTube in your education? (a) Yes (b) No

4- How frequent do you use You Tube for your learning?

- (a) Weekly
- (b) Twice a week
- (c) Three times a week
- (d) Daily

Other:

5- Which one of the following medical sciences you are usually looking for in YouTube: (you can choose more than one).

- (a) Anatomy
- (b) Pathology
- (c) Physiology
- (d) Pharmacology
- (e) Microbiology

6- Does YouTube medical videos help in relating basic to clinical science?

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

7- Does the staff members utilizes social media in education effectively?

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

8- Does the YouTube medical videos more easy to understand in compare to written lectures?

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

9- YouTube medical videos very useful to review the important topics before the exams:

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

10- Do you think YouTube medical videos enough as a source for your knowledge?

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

11- Videos relating to medical subjects still a secondary sources of my knowledge:

- (a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

12- Do you use another websites for watching medical videos?

(a) Yes. (b) No. (c) I don't watch medical videos.

If yes, which websites:

13- YouTube medical examination videos helped me to understand the physical examination and techniques:

(a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

14- Do you watch a specific YouTube medical channel?

(a) Yes. (b) No.

If yes, which channel:

15- Have you ever heard about Osmosis channel on YouTube? (if no, please skip to question 17).

(a) Yes. (b) No.

16- Do you watch the medical videos in Osmosis channel?

(a) Yes. (b) No.

17- I prefer to study from books and written lectures rather than videos:

(a) strongly agree. (b) agree. (c) undecided. (d) disagree. (e) strongly disagree.

18- Does your friends share with you some medical videos?

(a) Yes. (b) No.

19- From all videos you always watch what is the percentage of videos relating to medical issues?

(a) 0% (b) less than 5% (c) less than 20% (d) around 50% (e) above 90%