

Prevalence and Predictors of YouTube Use among Undergraduate Medical Students: A Cross Sectional Study from a Medical School of Riyadh, Saudi Arabia

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ABSTRACT

Introduction

The use of YouTube has increased now among medical students to revise the curricular content, to better understand them and also to share ideas. This study was carried out to find out the prevalence and predictors of use of YouTube by medical students.

Methodology

A cross-sectional study was carried out to assess the prevalence and predictors of use of YouTube as an extracurricular way of enhancing learning experience among medical students of Saudi Arabia for a period of 06 months from February 2023 to July 2023. A pre-validated self-administrated questionnaire consisting of the following sections like sociodemographic details, the predictors for the use of YouTube videos which consisted of frequency of use, grading of its usefulness etc. was used for data collection. Templates were generated in MS Excel sheet and analysis of data was done using SPSS software version 22. Quantitative variables were presented as frequency and percentages while chi square test of significance was used to demonstrate the associated between categorical variables. The value of significance \leq p less than 0.05.

Results

The prevalence of use YouTube was 94.1% among medical students in a medical school of Saudi Arabia, out of which 73.8% use it for both educational and entertainment purpose and about 71% of them find it very useful for educational purpose. About 43.7% of students use directed search strategy and most opined that it helped in better understanding. Most students use YouTube for upto one hour. Male students of age group 20 – 22 years were more involved in using YouTube videos as compared to female students or of other age groups and this association was statistically significant.

Conclusion

YouTube use is highly prevalent among medical students to better understand the subject matter and to revise them. Male students use them more often as compared to female students.

Keywords

YouTube, Medical Students, Saudi Arabia

INTRODUCTION

Since its official inception in 2005, YouTube has grown to be the most popular video-sharing service on the Internet¹. Users can make their own channels on this platform, view videos for free, publish them, and share them with others. People also use this platform to watch the news, keep up with current events, participate in debates, and search for information. Among the kids, YouTube is a well-liked informational resource². Students now have more chances for learning and collaboration outside of traditional time and location constraints because to developments in digital technology and social networking sites³⁻⁵. With more than half of its viewers using handheld mobile devices, YouTube is a very useful teaching tool because it is neither time- or location-restricted like books, lectures, and tutorials¹. One of the most effective communication tools of the twenty-

first century is social media, which also comprises web tools and applications made to let people engage online and share information⁶. Social networking tools are now a part of medical education and help students learn, stay current, share their knowledge, communicate effectively and quickly with others, and build a sense of community⁷⁻⁹. They also give students control over how the content is delivered, including

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its order, speed, and duration¹⁰⁻¹¹. Medical students and health professionals frequently utilise YouTube to learn new information, share it with others, and edit or comment on it¹²⁻¹⁵. In blended learning contexts and e-learning environments, video may be a very successful instructional tool¹⁶⁻²⁰. It is also frequently the main multimedia distribution method in online courses, such as massive open online courses²¹. The opportunity to see educational films in several venues to supplement clinical experiences and solidify their learning has been cited as a major source of student satisfaction in medical education because of the videos' succinctness, convenience of use, and accessibility²². Medical students are increasingly using YouTube videos with other resources for medical education because this platform is cost-free and simple to use and helps them fulfil their learning objectives¹². The main benefit of using videos as a strong teaching and learning tool is its adaptability in conveying complex information in an approachable way that is otherwise difficult to understand when presented verbally in a face-to-face teaching session. Furthermore, if the videos are properly produced (e.g., by professionals using credible sources) and presented (e.g., using high-quality audio-visual aids), they tend to give medical students the flexibility to evaluate teaching content in accordance with their own capabilities, thereby addressing their specific educational needs for a variety of subject areas²³. This study was carried out to find out the prevalence and predictors of use of YouTube by medical students.

MATERIALS AND METHODS

This observational cross-sectional study was carried out from February 2023 to July 2023 among medical students of College of Medicine, Majmaah University Saudi Arabia. Total consecutive sampling was used to enrol 675 medical students gave consent and participated in the survey.

A pre-validated self-administrated questionnaire was developed using google forms which consisted of the following sections like sociodemographic details, the predictors for the use of YouTube videos which consisted of frequency of use, grading of its usefulness etc. After preparation, the questionnaire was prevalidated and pretested and after making the necessary modifications,

it was distributed to medical students from first to fifth medical year via emails. The link for the survey was sent to email IDs of all the

students and the link was active for 90 days. The link consisted of 2 parts, the first part being the consent form and the second part, the questionnaire. Upon clicking the link, the consent form will open first and if yes was clicked on consent form, then only the questionnaire section would open. If No was clicked in consent form, then the survey would terminate. All the students were verbally informed about this study and details on the sequence of events that would follow once the link received in the email was clicked. These instructions were given by personally visiting them during their lecture hours and they were informed that the choice of participating in the study was purely voluntary and that the identity will remain anonymous.

Ethical clearance was obtained from the ethics committee of the institution before the start of the study.

Data Analysis: Templates were generated in MS Excel sheet and analysis of data was done using SPSS software version 22. Quantitative variables were presented as frequency and percentages while appropriate test of significance was used to demonstrate the associated between categorical variables. The value of significance was set as p less than 0.05.

RESULTS

At the end of the study, it was observed that total of 675 medical students participated in the study out of which, about half of the study participants (47.6%) were in the age group of 20-22 years and the mean age of study participants was 20.9 ± 2.54 years. Females participated more as compared to male participants. Demographic details can be seen in table 1.

It was observed that the prevalence of YouTube use at present among medical students was 94.1% and about half of the study participants (41%) used it after their classes in the evening hours. About 71% of the study participants found the use of YouTube videos to be very useful for better understanding of their academic contents and about 38% of them used it for less than 30 minutes at a stretch. The predictors are presented in Table 2.

Table 1: Demographic details of study participants (n= 675)

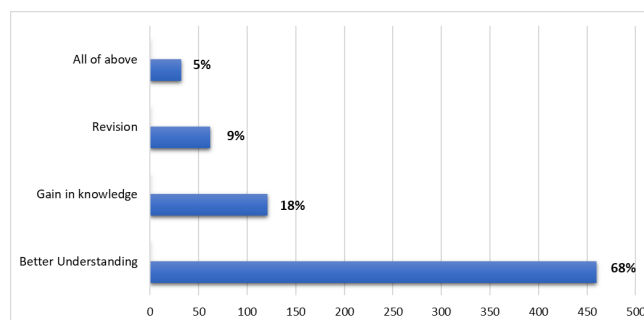
S. No.	Variable	Frequency	Percentage
1	Age less than 20	190	28.1%
	20 - 22	321	47.6%
	more than 22	164	24.3%
2	Gender Female	362	53.6%
	Male	313	46.4%
3	Residence Bisha	95	14.07%
	Riyadh	185	27.41%
	Jeddah	70	10.37%
	Al-Baha	110	16.3%
	Others	215	31.9%

Table 2: Prevalence and predictors of YouTube use

S. No.	Variable	Frequency	Percentage
1	Possession of any smart phone device (n = 675)		
	Any combination of the above	451	66.8%
	Laptop	13	1.9%
	Smart phone	181	26.8%
2	YouTube used before coming to medical college. (n = 675)		
	No	54	8.0%
3	YouTube used now. (n = 675)		
	Yes	635	94.1%
4	Purpose of using YouTube (n = 635)		
	Educational only	45	7.1%
	Entertainment only	122	19.1%
5	Search Strategy (n = 635)		
	Both	468	73.8%
	Directed search	278	43.7%
6	Usual time of watching video on YouTube (n = 635)		
	Random search	210	33.0%
	Both	147	23.3%
6	Usual time of watching video on YouTube (n = 635)		
	At night	223	35.0%
	Morning	152	24.0%

S. No.	Variable	Frequency	Percentage
7	Usefulness of YouTube videos in context to academics (n = 675)		
	Somewhat Useful	154	22.8%
	Usefulness	40	5.9%
	Very useful	479	71.0%
8	Duration of at a stretch use: (n = 635)		
	Not useful in any way	2	0.3%
	< 30 min	238	37.5%
	30min -1 hour	168	26.5%
	> 1 hour	90	14.1%
others	139	21.9%	

The purpose of supplementing the YouTube videos was better understanding of the academic material by about 68% of the students while 5% commented the purpose to be gain in knowledge, better understanding as well as for revision. The benefits of use of YouTube as perceived by students is depicted in figure 1.

**Figure 1: Reason for use of YouTube for educational purpose (N = 635)**

The subject for which it was most commonly consulted was Medicine.

Majority of students use YouTube multiple times in a day while about 14% of them use it once daily only.

DISCUSSION

Most students (90.6%) used social media for learning for at least 1 hour per day or more, according to a study by Nissar S et al.²⁴ that examined the most popular social networking sites used by medical students which is similar to the finding of the current study, where about 64% of the students used it for up to one hour per day. Since the videos are used only for supplementing the knowledge gained in theory and practical classes hence

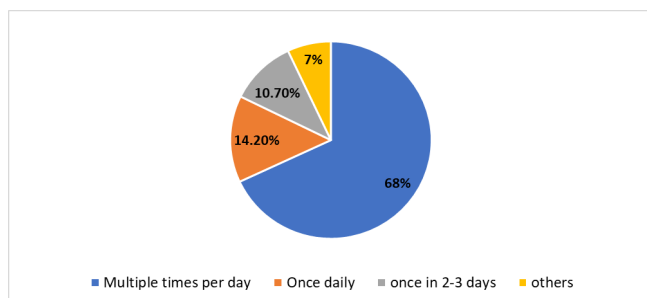


Figure 2: Frequency of using YouTube (n = 635)

Table 3: Association between various variables with the use of YouTube

Variable		Use of YouTube		
		No	Yes	
Gender	female	28 (7.7%)	334 (92.3%)	$X^2 = 4.58$ Df = 1 P = 0.032
	male	12 (3.8%)	301 (96.2%)	
Age group	less than 20 years	17 (8.9%)	173 (91.1%)	$X^2 = 7.28$ Df = 2 P = 0.026
	20 to 22 years	11 (3.4%)	310 (96.6%)	
	more than 22 years	12 (7.3%)	152 (92.7%)	

one hour might suffice the need of the students.

In a study by Mustafa A. G. et al.² examining how Jordanian medical students studying at the Jordan University of Science and Technology perceived the popularity, impact, and usefulness of using YouTube to learn anatomy, the findings revealed that 96.4% of the students used YouTube in general, 91.2% used it as a source of information, and 83.9% used it as a learning tool in medical school. Additionally, 79.1% of the students utilised YouTube as a method for learning about the human anatomy. The present study found that out of 675 medical students, 19.1% responded as using YouTube only for entertainment to relieve their stress while 7.1% of them use it exclusively for education as a learning tool. However, majority of the students (73.8%) commented as using it for both Educational and entertainment purpose. The most consulted subject was Medicine (17.58%) followed by anatomy. However, most of the students used it for all subjects depending upon the subjects taught in the medical school.

In a study by Mustafa A. G. et al.² majority of

students responded to questions about the perceived usefulness of YouTube as a resource for studying said that it improved their comprehension, retention, and recall of knowledge. Additionally, most of them advised YouTube as a resource for understanding the subject. When Azer et al.¹² evaluated the material on cardiovascular mechanism contained in textbooks, eMedicine articles, and YouTube, they discovered that YouTube excelled not only in terms of user interface but also in terms of substance and integrating information at the molecular and clinical levels. He discovered that YouTube provided medical students with current and easy-to-digest teaching resources with the added benefit of user interaction through the encouragement of comments and feedback. In the present study, majority of students (68%) used the YouTube videos for better understanding of the course content while few used it for gain in new knowledge and revisi

Conclusion

It is concluded that about 94.1% of medical students in Saudi Arabia use you tube, out of which 73.8% use it for both educational and entertainment purpose and about 71% of them find it very useful for educational purpose. About 43.7% of students use directed search strategy. Most students use you tube for upto one hour.

Conflict of Interest

The author reviewed and approved the final version and has agreed to be accountable for all aspects of the work, including any accuracy or integrity issues.

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The author declares that they do not have any financial involvement, association, or entity directly or indirectly with the subject matter or materials presented in this editorial. This includes honoraria, expert testimony, employment, ownership of stocks or options, patents, or grants received or pending royalties.

Data Availability

The data is exclusively available from the principal author for research purposes only.

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AUTHORS' CONTRIBUTION

All authors contributed significantly to the work, whether in the conception, design, utilization, collection, analysis, and interpretation of data or all these areas. They also participated in the paper's drafting, revision,

or critical review, gave their final approval for the version that would be published, decided on the journal to which the article would be submitted, and made the responsible decision to be held accountable for all aspects of the work.

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