EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 4
Issue: 5
327-332
Year: 2017

IMPACT OF SOCIAL MEDIA ON MEDICAL STUDENTS: A CROSS SECTIONAL STUDY

Suma S.*[1], Aruna V. Bhavane[2] and Kasturi B. Hunshikatti[3]

[1]Postgraduate, Department of Physiology, Belgaum Institute of Medical Sciences, Belagavi-590001, Karnataka, India.
[2]Associate Professor, Department of Physiology, Belgaum Institute of Medical Sciences, Belagavi-590001, Karnataka, India.
[3]Professor and Head, Department of Physiology, Belgaum Institute of Medical Sciences, Belagavi-590001, Karnataka, India.

***Corresponding Author: Suma S.**
Postgraduate, Department of Physiology, Belgaum Institute of Medical Sciences, Belagavi-590001, Karnataka, India.

Article Received on 01/03/2017 **Article Revised on 21/03/2017** **Article Accepted on 10/04/2017**

ABSTRACT

Background: No one would deny the fact, this is the era of social media. But its extensive use by youth and increased scope of the same warrants greater scrutiny due to complex interaction between its use and behaviour in other domains. **Objective:** To study the impact of social media and its extent into the professional and private arena of medical students. **Materials and methods:** Zammit social media questionnaire instrument-modified was distributed among 200 medical students to answer and collected back. Basic data represented in percentage, proportions. Statistical analysis was done using Chi Square test to see association between different variables. **Results:** Our study reveals, primary source of access to social media is via smartphone(75%, p <0.001) through whatsapp(96%, p <0.05) & Facebook(96%, p<0.001) leading the list. 84% of students felt the prime attraction is communication and instant access of information (60%, p<0.01), Nevertheless, they also use to download medical apps(54%), e-textbooks(50%), videos(38%,p <0.05). They feel compelled to use during class hours / better to abstain during exams. Students reported detrimental aftermath of long hours of usage such as delay in food & sleep(54%), decreased Physical activity(46%), eye irritation/dryness(44%), headache(36%), sleeplessness/anxiety(26%,p<0.05), noticeable increase in refractive power (18%). **Conclusion:** Creating awareness, adopting safety norms and prevention of over indulgence into social media by medical students especially would ensure us with not only an erudite future medical fraternity but also a better society through them.

KEYWORDS: social media, medical students, awareness, safety norms.

INTRODUCTION

Technology exposes mankind to a better way of doing things. One of the greatest boon to mankind in the current world is the internet. Internet is now necessary part of life from shopping to electronic mails and education. Modern Technology in communication no doubt has turned the entire world into a "Global Village". But as it is, technology like two sides of a coin, fetch with it both the negative and positive sides.[1] Social Media on internet is an effective instrument for communication, like news paper or radio or television. It helps people to be better informed, enlightened and keeping abreast with current events and developments.

With the gradual changing trend this internet is being synonymously associated with the term social media, through its usage. Social media or Social Networking is one of the Technological bedrock of **Web 2.0** which allow people to create, share, exchange information[2] and ideas in virtual communities and networks. Terminology is not standardized, with the terms 'social media', 'social network', 'social network service' and 'web 2.0' often used interchangeably and their supplication to medicine sometimes referred to as 'Medicine 2.0'.[3]

Furthermore Social Media depends on mobile and web-based technologies to create highly interactive platforms through which individuals can create, co-create, discuss user generated content. Social media sites are systems that allow the composition of general or semi general profiles within a system with defined rules. In the year 2003, a new social networking sites Facebook & Orkut.com changed total concept of Social Network in the history of Social media.[4] Visiting their respective social media profiles has become routine of a day, several times a day with increasing amount of time spent on it. Everything we need as a first hand information is

accessible right through the smart phone in our hand. Thanks to world wide web for bringing out such a big revolution. But at the same time could this have serious effects on our physical and mental well being is the dispute arising in many of our minds, the same being explored more by researchers to clarify and elucidate pros and cons of the present world of social media. In addition, media and studies have become inseparable in latest context more so over with medical students. Medical profession being a tough course which needs lots of cognizance and appreciation of concepts of physiological functioning of the body and related clinical issues naturally warrants students better assimilation through social media. A study design showed 132 of all U.S. medical schools have a website and 95% of them have some facebook presence. Out of these schools, 26% have official medical school social media pages and 71% have student groups.[5] As far as medical field is considered over whelming use of social media by youngsters has motivated people to adapt modified clinical curriculums to reflect the changing culture of incoming students.[6]

Though this trend has taken us through a long way in technological advances in day to day life the distinction between public and private life has been reformed as a result of social media, causing few to question the merit of this form of communication.[7] Despite the continuing debate over the definition of professionalism, the general aim in any case is to ensure public confidence in the medical profession.[8] As a further step to show the dismissive side of face of social media in 1998, Kraut et al. published one of the first studies to indicate that Internet use in general significantly affects social relationships and participation in community life.[9]

Majority of youth and teenagers running amok behind social media, Perhaps, this was the spark which ignited us to carry over this study and bring this issue into limelight which would help us to have a better insight into this problem and discover ways to prevent this new habit from becoming an addiction.

AIM AND OBJECTIVES

1. To find out the impact of social media on the life & Education of undergraduate level medical students.
2. To find out the various social networking sites the students had access to and what attracts them.
3. To determine how many hours the students spend in social networking activities daily and health problems with longer hours of usage.

MATERIALS AND METHODS

A cross sectional study was conducted among medical students of all phases in Belgaum Institute of Medical Sciences, Belagavi, Karnataka. Ethical clearance was obtained from the institutional ethical committee for conducting the study. Sample size was calculated statistically by referring article[10] 200 students were included in the study after taking individual consent. Pre tested semi structured Zammit social media questionnaire tool[11] modified was distributed to the students in lecture hall of different phases randomly and thirty minutes time was given to answer and form was collected back. Basic data was represented in percentage and proportions and chi square test was used to see the association between different variables.

OBSERVATION AND RESULTS

Table 1: Source and main networking sites

Source	Male	Femaleale	Total	Chi-square	p- value
PC/Laptop	80	20	100	36	<0.001*
Smartphone	90	60	150	6	<0.01*
Tablet	40	20	60	6.67	<0.01*
Ipad/ others	15	5	20	5	<0.05*
Types of social media used					
Whatsapp	115	81	196	5.89	<0.05*
Facebook	56	136	192	33.33	<0.001*
Youtube	60	62	122	0.033	>0.05
Google	36	20	56	4.57	<0.05*
Text message	64	92	156	5.03	<0.05*
Hike	18	10	28	2.29	>0.05
Instagram	12	4	16	4	<0.05*

** - significant p-value.*

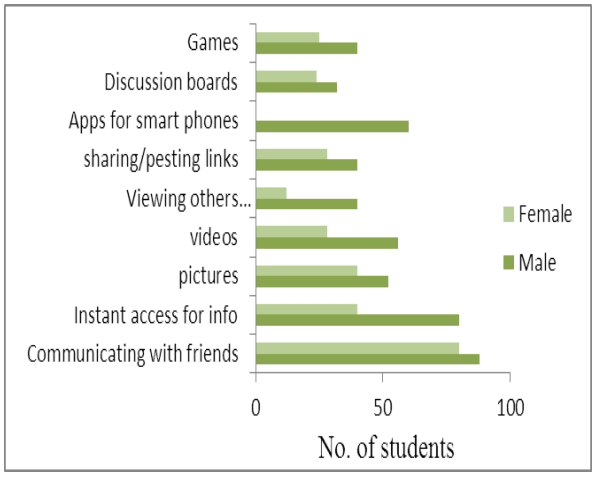

Fig. 1: What attracts students to social media?

Instant access for information($p<0.01$), viewing videos($p<0.01$), viewing others status($p<0.01$) and downloading apps for smart phones($p<0.001$) give statistically significant results as shown in the "Fig. 1".

Table 2: Other purposes of social networking

	Male	Female	Total	Chi- square	p-value
Download e-textbooks	48	52	100	0.16	>0.05
Download medical apps	60	48	108	1.33	>0.05
Download medical lectures/videos/medical journals	48	28	76	5.26	<0.05*
Other learning sources	16	8	24	2.67	>0.05

* - *significant p-value*

Table 3: Impact and views of social media

	Strongly disagree	Disagree	Agree	Strongly agree	Not Applicable	Chi square	p- value
Feels restless when No notification	25	12	53	42	68	84.15	<0.001*
Feels compelled to use mobile during class hours	12	30	28	44	80	67.96	<0.001*
Feels upset when mobile switches off	130	47	5	0	18	286.45	<0.001*
For instant info phone is better than textbooks	19	61	92	16	12	123.65	<0.001*
Textbook is more superior than online info	16	96	64	16	8	147.2	<0.001*
It is better to abstain from social media during exams	3	18	81	65	33	105.2	<0.001*

*- *significant p-value.*

Table 4: Smartphone usage in classrooms:

	Never	Seldom	Sometimes	Often	Very often	Chi square	P value
Carry mobile to classrooms	10	20	70	12	50	67.88	<0.001*
Makes notes of class in mobile	80	10	60	6	4	157.25	<0.001*
Click photo of relevant study material	4	12	54	76	20	112.67	<0.001*

*- *significant p-value.*

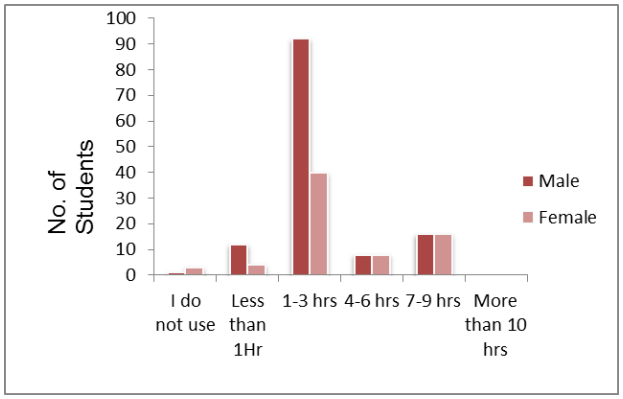

Fig. 2: How many hours do you spend on media?

Time spent on social media is shown in the "Fig. 2". Spending 1-3 hours($p<0.001$) and less than 1 hour ($p<0.05$) on social media give statistically significant results.

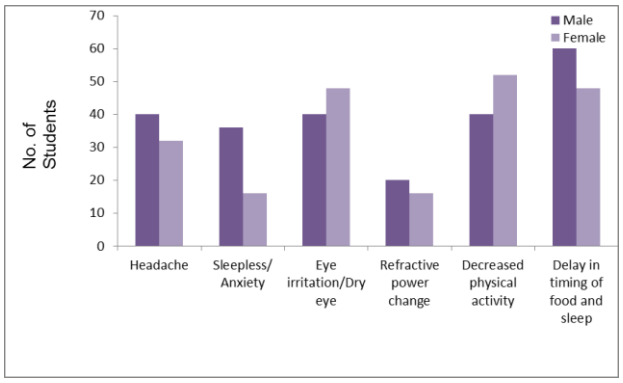

Fig. 3: Showing effect of prolonged use

Sleeplessness/anxiety($p<0.05$) as reported by the students forms a statistically significant result and is depicted in the "Fig.3".

DISCUSSION

Our study reveals that primary source of access to social media is via smartphone (75%, $p<0.001$) though other means via pc/laptop, tablet, ipad also give statistically significant results as depicted in Table 1, Roberts et al[12] found that college students spent almost nine hours daily on their cell-phones. They reported that as the functionality of cell-phones continues to spread, addiction to cell-phone apparently unavoidable piece of technology becomes an increasingly realistic possibility. A staggering number of medical students enrolled in our study had access to social media through whatsapp (96%,$p<0.05$) and Facebook (96% $p<0.001$) leading the list of commonly used social media. Nearly two-thirds (65%) of adult Internet users in the United States are involved with a type of social media called *social networking sites* (SNS), such as MySpace, Facebook, or Linked In.[13] Technorati currently registers over 1.3 million blogs[14], 13 percent of Internet users (140 million people) have a twitter account[15,16] and facebook has 955 million active users.[17] Literature suggests that females also use Facebook more and younger people tend to be more active on facebook.[18] Montag et al[19] studied that the duration of daily whatsapp use is positively associated with extraversion (rho = .18, $p < .001$), neuroticism (rho = .07, $p < .001$) and inversely associated with conscientiousness (rho = −.13, $p < .001$). Post hoc analyses of the same study revealed that facebook usage showed a mean day level of 15.19 ± 17.98 min (9.38%); far less than that of whatsapp. Almost 84% of the respondents of our study felt the prime attraction towards social media is to communicate with friends and instant access of information (60% $p<0.01$) formed the second main attraction. A study by Hughes et al[20] which supports our result, found that 70% of 35 junior physicians used wikipedia to find medical information during a week-long period and 93% cited ease of use as a primary information tool. Viewing others status, videos and downloading applications for smart phone are other attractions that proved to be statistically significant as depicted in "Fig.3" Staring at photos ,videos, status of virtual folk may lead to incorrect conclusions regarding physical appearance, educational level, intelligence, moral integrity, as well as many other characteristics of online friends.[21] Another study carried out on 425 undergraduate students of at a state university in Utah reported that facebook use is linked to participants' impression that other users are happier, as well as the feeling that ''life is not fair".[22] Some studies find that more time spent on facebook is associated with higher social capital and individuals more likely to use social networking sites are also more likely to be extroverted and driven by social collective factors. Our study displays that students use social networking to download medical app(54%), e textbooks(50%), medical lectures, videos(38%,$p<0.05$) and various other e learning resources as a part of their learning. All these results create a picture of the younger medical fraternity moving towards the fast paced technology world. Impact has also been felt internally as a new generation of clinicians enters training with ingrained communication habits unimagined by their predecessors.[23] Students enrolled in our study of them answered on a likert scale to 'sometimes'as shown in Table 4 that they carry mobile to classrooms(35%), make notes of class in mobile(30%) and click photos of relevant study material (25%) all being statistically significant considering the distribution of response among five groups of likert scale used. The major satisfaction of this being easier access, always comfortable than the walk to the library. The ease in clarifying the thought process in understanding of medicine almost instantly through immediate communication than having to wait for long hours to catch up with teachers and friends is always encouraging. In a complicated, tougher course like medicine, video lectures enable students to access the topic multiple times for better understanding which is not possible with conventional methods of teaching. Not to forget the innumerable lectures, discussions, videos, pictures etc which can be stored and transferred via social media which has boosted the students understanding of

medicine in a easier way. Kim et al[24] challenged his specialty community to improve Wikipedia's coverage and to establish wiki-based curricula. On the other hand, Pender et al,[25] found Wikipedia unsuitable for medical student use, because of a lack of depth and some factual errors.

Our study also unveils that students become restless when they don't get a notification or when mobile switches off. Students feel compelled to use during class hours and they also think it is better to abstain from social networking during exams which gives us insight about the dangerous addiction that it may turn into. In a recent study in a high school student population, we found a statistically significant positive correlation between depressive symptoms and time spent on social networking sites.[26] A study in the UK, found internet addiction to be widespread among 18% of young people.[27] Micro time slots can lead to obsessive mobile phone usage and can interfere with face-to-face interaction and harm academic performance.[28] Our respondents majority(66%, $p<0.001$) admitted that they spend one to three hours per day on social networking. Another important area not completely touched upon is the constant prolonged use of smart phones by which we are prone for exposure of harmful rays emitted. Specific absorption rate is a measure of radiofrequency energy absorbed by the body when using mobile phone. Reports say a phone to be called safe – SAR < 1.6 watt/kg. Though India adopted the safety norms in September 2013 the awareness about this is still in infantile stage. Real threat stuck us when respondents came out with problems associated with longer hours of use like delay in food & sleep(54%), decreased Physical activity(46%), eye irritation/dryness(44%), headache(36%), sleeplessness and anxiety(26%,$p<0.05$), noticeable increase in refractive power(18%) making it a less favorable new habit. Other coequal studies have evaluated the relationship between smartphones, mobile phones, and the Internet on the one hand and depression, anxiety, sleep disturbances on the other in adolescents.[29] Canan et al,[30] found an association between Internet addiction and impaired sleep. Cain and Gradisar[31] suggested some mechanisms concerning the relationship between electronic media use and poor sleep: 1) Electronic media use may displace sleep2) using electronic media devices may be associated with cognitive, emotional or physiological arousal; 3) light emission of the screen of devices may affect sleep; and 4) mobile phone use in the bedroom may disturb sleeping that received messages may awake adolescents at night. Apart from the wider benefits of social media use in medical field, the potential health hazards reported form an alarming signal as to how can we control this new issue. We understand the limitations of our study firstly better sample size, secondly accuracy and reliability of responses to questionnaire by students, thirdly simple statistical analysis. Inspite of the limitations this study brings into limelight how social networking has drilled through younger individuals who form responsible part of the society, moreover our sampling including medical students goes a far way unveiling critical domains which should be taken care of creating awareness and let not our future buoyant citizens fall a prey to so called social media addiction.

CONCLUSION

Social media usage especially via smartphones is undoubtedly not going to diminish in the coming years. Though learning of medicine has always been through textbooks and rigorous practice, the transition to easier forms have already being established through internet and social networking sites. Concern is these practices should always be augmented to the conventional means of communication and practice of medicine rather than abusive use leading to physical and mental dependence.

As of now, usage of social media should be controlled at the individual level only for the basic purposes of communication and learning rather than acquisition of precious productive period of the day. Over indulgence in the same can have its effects though minimal initially, but in the long run will definitely be habit forming and addictive. Healthy mindset of young Medical students is the essence of a responsible future medical fraternity.

Prevention at the stake holders level lies in creating awareness and implementing safety norms. Individual centered options like sticking on to conventional methods of communication, more personal connect than virtual connect, phase wise reduction on dependence of smart phones and many more simple steps would stop this threat of common action becoming an addiction.

REFERENCES

1. Anjugu Jessica Nadaku. Impact of Social media in the students academic performance. Caritas University, Amorji-Nike, 2013.
2. Sudipta Dep Roy, Sankar Kumar Chakraborty. Impact of Social Media / Social Networks on Education and life of Undergraduate level students of Karimganj town: A survey. International Research Journal of Interdisciplinary & Multidisciplinary Studies, 2015; 1(1): 141-147.
3. Eysenbach, Gunther. Medicine 2.0: social networking, collaboration, participation, apomediation and openness. J Med Internet Res, 2008; 10: 22-21.
4. Shahzad Khan. Impact of Social Networking Websites on Students. Abasyn Journal of Social Sciences, 2012; 5(2): 56-77.
5. Kind T, Genrich G, Sodhi A, Chretien KC. Social media policies at US medical schools. Med Educ Online, 2010; 15.
6. Wells KM. Social media in medical school education. Surgery, 2011; 150(1): 2-4.
7. Kraut R, Patterson M, Lundmark V, Kiesler S, Mukopadhyay T, Scherlis W. Internet paradox. Asocial technology that reduces social involvement

and psychological well-being?. The American Psychologist, 1998; 53: 1017–1031.
8. Lister M, Dovey J, Giddings S, Grant IH, Kelly K. New Media: A Critical Introduction. Second ed. Routledge, 2009.
9. MacDonald J, Sohn S, Ellis P. Privacy, professionalism and Facebook: a dilemma for young doctors. Med Educ, 2010; 44(8): 805–813.
10. Kadriye Avci, Sevda G C, Semih E, Dogukan A. Assessment of medical students' attitudes on social media use in medicine:a cross sectional study.BMC Medial Education, 2015; 15: 18.
11. Examining the use of Social Media among Four H Alumni in Lousiana [Master Of Science]. Louisiana State University, 2012.
12. James A. Roberts, Luc Honore Petnji Yaya, Chris Manolis. The invisible addiction: Cell-phone activities and addiction among male and female college students. Journal of Behavioral Addictions, 2014; 3(4): 254–265.
13. Madden M, Zickuhr K. 65% of online adults use social networking sites. Washington, DC: Pew Internet & American Life Project; 2011 Aug 26. URL: http://www.pewinternet.org/Reports/2011/Social-Networking-Sites.aspx [accessed 2012-08-01] [WebCite Cache ID 69bCvF51S].
14. Technorati blog directory, 2011. URL: http://technorati.com/blogs/directory/ [accessed 2012-08-01] [WebCite Cache ID 69bCmAOWC].
15. Smith A. 13% of online adults use Twitter. Washington, DC: Pew Internet & American Life Project, 2011 Jun 01. URL: http://www.pewinternet.org/~/media//Files/Reports/2011/Twitter%20Update%202011.pdf; [accessed 2012-08-01] [WebCite Cache ID 69bCxrzY9].
16. Twitter. Twitter turns six, 2012 Mar 26. URL: http://blog.twitter.com/2012/03/twitter-turns-six.html [accessed 2012-08-01] [WebCite Cache ID 69bD02ViQ].
17. Facebook. Key facts URL: http://newsroom.fb.com/content/default.aspx?NewsAreaId=22 [accessed 2012-08-01] [WebCite Cache ID 69bCiROYY].
18. McAndrew FT, Jeong HS. Who does what on Facebook? Age, sex and relationship status as predictors of Facebook use. Comput Hum Behav, 2012; 28: 2359–2365.
19. Montag C, Kannen C, Lachmann B, Sariyska R, Duke É, Reuter M et al. The importance of analogue zeitgebers to reduce digital addictive tendencies in the 21st century. Addict Behav Rep, 2015; 2: 23–27.
20. Hughes B, Joshi I, Lemonde H, Wareham J. Junior physician's use of Web 2.0 for information seeking and medical education: a qualitative study. Int J Med Inform, 2009; 78: 645-655.
21. Igor Pantic. Online Social Networking and Mental Health. Cyberpsychol Behav Soc Netw, 2014; 17(10): 652–657.
22. Chou HT, Edge N. ''They are happier and having better lives than I am'': the impact of using Facebook on perceptions of others' lives. Cyberpsychology, Behavior & Social Networking, 2012; 15: 117–121.
23. Chretien KC, Goldman EF, Beckman L, Kind T. It's your own risk: medical students' perspectives on online professionalism. Acad Med, 2010; 85(10): 68-71.
24. Kim JY, Gudewicz TM, Dighe AS, Gilbertson JR. The pathology informatics curriculum wiki: Harnessing the power of user-generated content. J Pathol Inform, 2010; 1: 10.
25. Pender MP, Lasserre KE, Del Mar C, Kruesi L, Anuradha S. Is Wikipedia unsuitable as a clinical information resource for medical students? Med Teach, 2009; 31: 1095-1096.
26. Pantic I, Damjanovic A, Todorovic J, Topalovic D, Jovic DB, Ristic S. Association between online social networking and depression in high school students: behavioral physiology viewpoint. Psychiatria Danubina, 2012; 24: 90–93.
27. Niemz K, Griffiths M, Banyard M. "Prevalence of pathological Internet use among university students and correlations with self-esteem" Cyberpsychology and Behavior, 2006; 11: 480–483.
28. JJ Al-Menayes. "The relationship between mobile social media use and academic performance in university students" New Media and Mass Communication, 2014; 25: 23–29.
29. Lemola S, Perkinson-Gloor N, Brand S, Dewald-Kaufmann J. F, Grob A. Adolescents' electronic media use at night, sleep disturbance and depressive symptoms in the smartphone age. Journal of Youth and Adolescence, 2014; 1–14.
30. Canan F, Yildirim O, Sinani G, Ozturk O, Ustunel T. Y, Ataoglu A. Internet addiction and sleep disturbance symptoms among Turkish high school students. Sleep and Biological Rhythms, 2013; 11(3): 210–213.
31. Cain N, Gradisar M. Electronic media use and sleep in school-aged children and adolescents: A review. Sleep Medicine, 2010; 11(8): 735–742.