

Original Research Article

Perceived social isolation among health care professional course students using social media in a South Indian metro city

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Received: 31 January 2020

Accepted: 04 March 2020

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ABSTRACT

Background: Social isolation has been identified as a state in which individuals lack a sense of belonging, true engagement with immediate family, friends, peers in the form of fulfilling relationships. The subjective form commonly identified as 'perceived social isolation' (PSI) arises from a feeling of lack of engagement with the above said systems available in one's living environment and is linked to adverse physical and mental conditions in individuals experiencing it. Aim of the study was to assess perceived social isolation among health care professional course students using social media in a South Indian metro city, Chennai, Tamil Nadu.

Methods: A pre-tested questionnaire was designed including socio-demographic features and components to assess social media usage both in duration of time and frequency of usage. Perceived social isolation as assessed by a global validated tool adapted from Patient-Reported Outcomes Measurement Information System (PROMIS) was used in this study. The scores and grades from PROMIS-4 are classified as: low PSI: 4-6, medium PSI: 7-10, high PSI: 11 and above. Data was entered in Microsoft Excel sheet and proportions and tests of significance were performed.

Results: In our study we found that PSI was significantly higher among the subjects using social media for than two hours per day. The association between gender, year of studying, time spent on social media on daily basis and PSI scores was found to be statistically significant. (p value >0.05).

Conclusions: People with high social media usage perceive being socially isolated than their counterparts with lower use.

Keywords: Health care professional course, Mental health, Perceived social isolation, PROMIS tool, Social media use

INTRODUCTION

Mental health a component of holistic definition of health by World Health Organization (WHO) has been receiving increased attention in the recent times. Perceived Social Isolation (PSI) as an area of research attracted tremendous attention in recent times. Social isolation, has been identified as a state in which individuals lack a sense of belonging, true engagement with immediate family, friends, peers in the form of fulfilling relationships and is

found to be associated with negative health outcomes.^{1,2} The two components of social isolation include 'objective' and 'subjective' forms.³ The objective form of social isolation results due to actual lack of social ties wherein individuals lack the social systems such as family, community belonging etc. The subjective form commonly identified as 'perceived social isolation' arises from a feeling of lack of engagement with the above said systems available in one's living environment. This form of social isolation has been linked to adverse physical and mental conditions in individuals experiencing it.^{2,4-6}

The college going young adults aged between 18-24 years are in a transitional phase into adulthood wherein balancing their personalities with peer cultures, personal aspirations with parental desires seems a constant battle. Entry into college as young adults exposes them to a plethora of experiences and not all are capable of effectively handling the change. This may push few young adults into a state of mental confusion, disorientation and they may be overwhelmed with inexpressible emotional shifts and adjustments they need to make at this point. Physical support systems and social networks such as a positive family bonding relationship with parents and siblings, friends and well-wishers will provide immense strength to young adults in achieving this gradual transition. The perceived social isolation among young adults finds its roots established when they move away from these protective systems and hence is a potential area to be studied in depth.

With the internet of things (IoT) being in vogue for the past two decades universally, young adults have near-pervasive access to social media which exerts greater influence in shaping their self-identity. Social media use has been reported to impact both positively and negatively on the users. Global studies identified increased social support as well as depression and other mental health disorders among young adults who are regular social media users.⁷⁻¹² Health care professional (HCP) course students are at risk of intense stress owing to their medical curriculum demands and are also identified as highest users of social media. There is a need to study their perceived state of social isolation which help us identify solutions and support systems before the impact of perceived social isolation leaks into adulthood. But similar studies among Indian HCP course students are scarce and not widely published. Thus, we propose to assess perceived social isolation among health care professional course students using social media in a South Indian metro city, Chennai, Tamil Nadu.

METHODS

Study design, setting and duration

A cross-sectional, descriptive study was conducted among HCP course students, using social media, enrolled in a tertiary medical teaching hospital from 2014 to 2016 academic courses including medicine, dental, nursing, allied health sciences in a South Indian metro city, Chennai during October-December 2019.

Sample size and sampling technique

Based on Primack et al study, the prevalence as 27%(p), 3.5%(d) allowable error, and 10% non-response rate, considering the confidence interval of 95%, sample size calculated to be 708.¹⁶ Using simple random sampling method, the HCP course students, were approached and explained about the study and its objectives.

Study tools

A pre-tested, structured questionnaire was designed including socio-demographic features, and components to assess social media usage in duration of time and frequency of usage. Perceived social isolation as assessed by a global validated tool adapted from Patient-Reported Outcomes Measurement Information System [PROMIS] was used in this study.¹³ This tool development was an NIH Roadmap initiative which aims to provide precise, valid, reliable, and standardized questionnaires across the domains of physical, mental, and social health and measures patient reported outcomes. The PROMIS social isolation scale has been correlated with and validated against other commonly used social isolation measures.^{14,15} In a 2018 published study PROMIS social isolation scale has been successfully adopted to measure perceived social isolation in a nationally representative sample of university going adults in United States by Brian A. Primack et al.¹⁶ The items in the scale, specifically ask of the participants, how frequently during the past seven days: they had felt left out, that people barely knew them, felt isolated from others, felt people are around but not with them. These items scored on a 5-point Likert Scale ranging from 1 to 5, which constitute the responses of: never, rarely, sometimes, often and always. Thus, the cumulative scores ranges from 4 to 20 and are classified as: low PSI: 4-6, medium PSI: 7-10, high PSI: 11 and above.

Method of data collection

Clearance from the Institutional Ethics Committee of the concerned Medical College was obtained. The questionnaire was self-administered after obtaining a written informed consent to the study participants aged 17-24 years of both genders after verifying their college identity card as proof of their HCP course status. The students were approached at hostels, canteen and also at common rooms during lunch breaks and willing students were included in the study.

Statistical analysis

Data was entered in Microsoft Excel sheet and analysis was performed on SPSS version 20. The proportions were performed for social media use in hours and frequencies across HCP courses, tests of significance (Chi-square) was performed for PSI grades against social media use and HCP courses.

RESULTS

Characteristics of study participants

A total of 911 HCP course students in a tertiary medical teaching hospital, Chennai filled up the study questionnaires and was analysed. Majority (60.9%) were females and 69.8% were aged 17-21 years.

Table 1: Distribution of study participants according to HCP courses (n=911).

	Demographic factors	Frequency	Percentage
Age in years	17-21	636	69.8
	22 and above	275	30.2
Gender	Male	356	39.1
	Female	555	60.9
Education	MBBS	732	80.4
	Nursing	99	10.8
	AHS*	80	8.8
Year of study	1 st	433	47.5
	2 nd	186	20.4
	3 rd	140	15.4
	4 th	111	12.2
	5 th	41	4.5

*AHS-Allied Health Sciences

As noted in Table 1, medicine and dental students combined were (80.4%), nursing students (10.8%) and allied health sciences (8.8%) and large majority were first year students 47.5%.

Table 2: Distribution of PSI grading among study participants.

PSI grading Score	Frequency	Percentage	
Low	4-6	495	54.3
Medium	7-10	268	29.4
High	11 and above	148	16.2

*PSI: Perceived social isolation

Table 2 shows the grades of PSI distributed among participants and low PSI (4-6) was found in 495 (54.3%), medium PSI (7-10) in 148 (16.2%), high PSI (11 and above) in 286 (29.4%).

Table 3: Association between HCP course and social media use with PSI.

Variables		PSI			Chi -square
		Low	Medium	High	
Age in years	17-21	317	210	109	0.0001
	22 and above	178	58	39	
Gender	Male	281	48	27	0.0001
	Female	214	220	121	
Education	MBBS	389	220	123	0.002
	Nursing	46	35	18	
	AHS	60	13	7	
Year of study	1	233	139	61	0.001
	2	103	44	39	
	3	79	39	22	
	4	47	39	25	
	5	33	7	1	
Social media usage frequency	Current user	406	221	124	0.266
	Past	10	9	8	
	Rare	61	31	11	
	Never	18	7	5	
Reasons for turning to social media (n=880)	To make more friends	405	215	103	0.002
	Not to feel isolated/ lonely	71	46	40	
I am a social media user (n=881)	Passive	349	178	102	0.361
	Active	128	83	41	
Social media usage contributes to my emotional well being	Unsatisfactory	21	14	20	0.001
	Neutral	283	146	69	
	Satisfactory	173	101	54	
Social media use makes me feel isolated/lonely	Often	13	9	20	0.0001
	Sometimes	70	68	49	
	Rarely or never	394	184	74	
Can cope up with social media use and its emotional side effects	Yes	299	149	84	0.011
	No	23	20	20	
	Don't know	153	92	39	

*AHS-Allied Health Sciences

In Table 3, participants aged 17-21 years had high perceived isolation when compared to 22-26 years age group. The association between age and perceived social isolation was found to be statistically significant (p value=0.0001). A statistically significant association was found between gender and PSI scores (p value=0.0001). Medium and high levels of perceived social isolation was more among female students across HCP courses when compared to males. The association between education, year of studying with perceived social isolation was found to be statistically significant (p less than 0.05).

Majority of students said they started using social media to make more friends. A statistically significant association was found between use of social media to make friends and PSI (p-value=0.002). The association between social media reducing the feeling of loneliness, students being able to cope up with any emotional side effects of social media usage with lower perceived social isolation was found to be statistically significant (p=0.0001).

Table 4: Association between social media usage time daily and perceived social isolation (PSI).

Time spent on social media on daily basis	PSI score			Total	Chi-square
	Low	Medium	High		
0-30 min	43	24	12	79	0.029*
31-60 min	54	22	10	86	
61-120 min	130	45	34	209	
121 min and above	268	177	92	537	
Total	495	268	148	911	

Table 5: Multivariate analysis between different social media platforms and perceived social isolation.

PSI score	Variables	Adjusted odds ratio	P value
Medium	Intercept	--	<0.001
	Facebook	1.26 (0.75-2.11)	0.384
	WhatsApp	1.07 (0.76-1.49)	0.707
	Twitter	0.79 (0.32-1.95)	0.610
	Instagram	2.03 (1.39-2.96)	<0.001*
	YouTube	0.9 (0.59-1.35)	0.599
	Others	0.91 (0.53-1.55)	0.720
High	Intercept	--	<0.001
	Facebook	1.73 (0.98-3.05)	0.060*
	WhatsApp	1.72 (1.13-2.6)	0.011*
	Twitter	1 (0.36-2.74)	0.997
	Instagram	0.91 (0.56-1.46)	0.682
	YouTube	1.66 (1.04-2.64)	0.033*
	Others	1.02 (0.55-1.9)	0.955

*significant

Table 4 shows the association between time spent on social media for more than two hours on daily basis and

high levels of perceived social isolation to be statistically significant (p-value= 0.029). In this study social media use across health care professional course students was found to be approximately 98.2%. Only 16 individuals (1.8%) reported zero site visits per week.

In Table 5, study participants with high WhatsApp usage had 1.72 times higher risk of experiencing high PSI compared to others with lower usage of WhatsApp (p<0.05). People with high Instagram usage had 2.03 times higher risk of experiencing high PSI compared to others with lower usage of Instagram (p<0.001). People who were high users of YouTube had 1.66 times higher risk of high grades of PSI compared to others with lower usage of YouTube (p<0.05).

DISCUSSION

Among health care professional course students comprising medical, dental, nursing and allied health sciences, we attempted to understand perceived social isolation among social media users belonging to a tertiary care teaching hospital in Chennai. Use of social media across platforms including Facebook, WhatsApp, Intergametic and its association with various grades of perceived social isolation was assessed.

Use of social media among HCP course students

This being a descriptive, cross-sectional study we narrated the social media use of various popular social media platforms by the study participants, as well as the duration of use.

In this study social media use across health care professional course students was found to be approximately 98.2%. (Table 4) Similar studies reported that Social media use among Indian medical students was estimated to be 90% and 88.58%.^{17,18} It was also found that medical students have higher prevalence of social media use compared to paramedical course students which is similar to our finding in this study.¹⁸

In Kolkata study among medical undergraduates, it was reported that more than 90% use more than one social networking systems and one-third remain active all through the day and 80% for ≥ 4 hours.¹⁹ Also, in the same study, 24% reported depression and 68.5% had anxiety.

Perceived social isolation among social media users

Globally many studies identified both positive and negative influences of social media usage on the mental health of the users. This is first study to our knowledge assessing social media use and perceived social isolation in India. Perceived social isolation variedly referred in many studies as 'loneliness' was described by Hawkey LC et al in 2008 as a mismatch between an individual's social needs and the provisions offered in the social environment or is perceived to offer. The mismatch can be quantitative (i.e. too few

relationships, potential or actual), but is described as usually more qualitative in nature.²⁰ This may transition to social relationships failing to connection and bonding essential for survival of human beings. The various forms of isolation perceived by subjects have transient to long lasting mental health effects manifesting as depression, anxiety, withdrawal from active social life and could be fatal leading to suicides. Ecological systems theory as described Bronfenbrenner helps us to understand the fluid nature of forming relationships based on existing, current environmental constraints.²¹ Innumerable studies attempted to study social isolation by variety of scales in adolescence and adults and PROMIS scale has been adapted in Indian context for the first time through this study.^{16,22-25}

In this study it was found that PSI was significantly higher among those subjects who were using social media for than two hours in a day. They had nearly double the odds for experiencing PSI when compared to those using less than half hour in a day. Similar findings were reported in a study done in US based young adult population by Primack et al.¹⁶ It also highlighted that the higher frequency of visiting the sites (58 times in a week) tripled the odds for PSI than fewer site visits (9 times a week). The researchers offered multiple theories aiding for PSI including social media use eating into real life relationship building, experiences of exclusion after coming across pictures shared from highly glamorous events/places/people concluding that in their study use of social media is found to be associated with increased social isolation.¹⁶ Heavy users (vs. light) of digital media were 48% to 171% more likely to be unhappy, to be in low in well-being.²⁶ Light users (rather than non- or moderate users) were highest in well-being, and for most digital media use the largest drop in well-being occurred between moderate use and heavy use. The limitations of using percent variance explained as a gauge of practical impact are discussed.

Studies on PSI from India or south Asia are not found to our knowledge though in the study based in Kolkata, the authors concluded that impact of social media use on interpersonal relations was inconclusive.¹⁸ Interestingly they also reported that among participants who felt addicted to social media networking, 62.8% indicated that it has improved relations. It is our understanding that today's youth are quick to adapt and build inherent resilience systems of coping using social media platforms and this may have productive outcomes for this age group. In a correlational study among 467 young adults for their time spent using social media, results indicated that social media use was not predictive of impaired mental health functioning.²⁷ Also, authors concluded that after controlling for prior problems and loneliness, social networking sites (SNS) use does not or hardly predict mental health and sleep problems on the short or long term.²⁸

Limitations of our study include self-reported data on social media use and perceived social isolation from the study participants though is a standard methodology in

studies of cross-sectional nature. But we believe it still aids to document the trends of the same. This study focused only on health care professional course students and further studies involving other academic course students will help reveal comprehensive understanding of social media use and perceived social isolation among college youth.

CONCLUSION

The present study identified social media use being very common among health care professional course students and high social media use among the study subjects is associated with perceived social isolation than their counterparts with lower use.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Sucharitha ST, Karthik RC, Karthick M, Balaji SM, Arumugam B. Perceived social isolation among health care professional course students using social media in a South Indian metro city. *Int J Community Med Public Health* 2020;7:1492-7.