

ORIGINAL ARTICLE

An Observational Exploration of Factors Affecting Perceived Social Isolation Among Social Media Using Medical Professional Course Students In South Indian State of India.

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Citation

Tirukkovalluri SS, Malarvannan K, Karthik RC, Mahendiran BS, Arumugam B. An Observational Exploration of Factors For Perceived Social Isolation Among Social Media Using Medical Professional Course Students In Chennai, India. Indian J Comm Health. 2020;32(1):76-81.

Source of Funding: Nil **Conflict of Interest:** None declared

Article Cycle

Received: 27/11/2019; **Revision:** 15/02/2020; **Accepted:** 05/03/2020; **Published:** 31/03/2020

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Abstract

Background: Social isolation is 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 'perceived social isolation'(PSI) arises from a feeling of lack of engagement with above is linked to adverse physical and mental conditions. **Aim & Objectives:** To assess the factors associated with social medial use and levels of perceived social isolation among study subjects. **Materials & Methods:** PSI was assessed by using Patient-Reported Outcomes Measurement Information System (PROMIS) which was adapted in this study and the scores and grades from PROMIS-4 were classified as: low PSI: 4-6, medium PSI: 7-10, high PSI: 11 and above. **Results:** PSI was significantly higher among the subjects using social media for than two hours per day. In our study the association between gender, time spent on social media on daily basis, year of studying and PSI scores was found to be statistically significant. (P-value>0.05). **Conclusion:** People with high social media usage were found to perceive being socially isolated than their counterparts with lower use.

Keywords

Social Isolation, PROMIS tool, Social Media, Health Care Professional, Mental Health.

Introduction

Perceived social isolation (PSI) is a state in which individuals lack a sense of belonging, true engagement with immediate family, friends, peers in the form of fulfilling relationships.(1,2) The 'objective' forms is actual lack of social ties with social systems such as family, community belonging etc.(3). The subjective form i.e. 'perceived social isolation' arises from a feeling of lack of engagement with systems available and linked to adverse physical and mental conditions in individuals experiencing it. (2,4,5,6) The young adults aged 18-24 year's undergo transitional phase into adulthood and physical support systems and social networks provide immense strength to

successful transition. The perceived social isolation among young adults finds its roots established when they move away from these protective systems. Global studies identified increased social support (7,8) as well as depression and other mental health disorders (9,10,11,12) among young adults who are regular social media users. Medical or health care professional (HCP) course students are at risk of intense stress owing to curriculum demands and are highest users of social media. Need arises to study their perceived state of social isolation to identify solutions and support systems before the impact of perceived social isolation leaks into adulthood.

Aims & Objectives

To assess the factors associated with social media use and levels of perceived social isolation among health care professional course students with social media use.

Material & Methods

Study Type: A cross-sectional, descriptive study was conducted in South Indian metro city, Chennai

Study Population: HCP course students who were habitual social media users, enrolled in a tertiary medical teaching hospital for academic courses including medicine, dental, nursing, allied health sciences

Study Area: Tertiary care teaching hospital, in a South Indian metro city, Chennai during October-December 2019.

Study Duration: October-December, 2019.

Sample Size Calculation: Based on Primack et al study the prevalence -27% (p), 3.5%(d) allowable error, and 10 % non-response rate, and considering the confidence interval of 95%, sample size was calculated to be 708.

Inclusion Criteria: HCP course students, aged 17-24 years from both genders, consenting and willing to complete the questionnaire.

Exclusion Criteria: Students who are not habitual social media users were not included in the study.

Strategy for collection: A pre-tested, structured questionnaire was designed to collect data on socio-demographic characteristics, and survey items to assess social media usage such as duration of time spent on social media and frequency of usage in a day. Perceived social isolation is assessed by items adapted from global validated tool-Patient-Reported Outcomes Measurement Information System [PROMIS] (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: i. they had felt left out, ii. that people barely knew them, iii. felt isolated from others, iv. felt people are around but not with them. These items were scored on a 5-point Likert Scale ranging from 1 to 5, and correspond to never (score=1), rarely (score=2), sometimes (score=3), often and always (score=4). The cumulative scores range from 4 to 20 and are classified as: i. low PSI= total score between 4-6, medium PSI= total score between 7-10, high PSI as 11 and above. The students were approached at hostels, canteen and also at

common rooms during lunch breaks, evenings and willing students were included in the study.

Working Definition: HCP course students of Tagore Medical college Hospital, Chennai currently admitted in professional courses, and are habitual i.e., at least once in a day for a duration of 15-30 minutes) were eligible to participate in the study with consent.

Ethical Approval: Institutional Ethics Committee (IEC) of Tagore Medical College and Hospital, Chennai approved the study protocol.

Consent: Written informed consent was obtained and the questionnaire was self-administered after the study participants fulfill the inclusion criteria and verification of identity card as proof of their HCP course status.

Data Analysis

Data was entered in Standard Microsoft Word Excel (2007 Version) and statistical analysis was performed on SPSS computer package version 21.0 (SPSS Inc.II, USA). The descriptive statistics were measured and differences between social media use and levels of perceived social isolation were assessed by Chi-Square test and a significance level of $p < 0.05$ was set.

Results

Characteristics of study participants: A total of 911 HCP course students in a tertiary medical teaching hospital, Chennai completed the survey questionnaires and data was analyzed. Majority (60.9%) were females and 69.8% were aged 17-21 years.

As noted in (Table 1), the descriptive features of professional course students was depicted.

(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 (11and above) in 286(29.4%).

In (Table-3), participants aged 17-21 years had high perceived isolation when compared to other higher age groups. The association between age and perceived social isolation was found to be statistically significant. (P-value=0.0001). Also statistically significant association was found between gender and PSI scores. (P-value=0.0001).Medium and high levels of perceived social isolation were high 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-value=less than 0.05).

(Table-4) A statistically significant association was found between use of social media to make friends and PSI (P-value=0.002).

(Table 5) 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 our 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-6), study participants with high Whatsapp usage had 1.72 times higher risk of experiencing high PSI compared to others with lower usage of Whatsapp ($p < 0.05$).

Discussion

Among health care professional course students of medical, dental, nursing and allied health sciences, we attempted to understand perceived social isolation among habitual social media users in Chennai.

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 our study, social media use across health care professional course students was found to be approximately 98.2 %. (Table 5) Similar studies reported that Social media use among Indian medical students was estimated to be 90 % (17) and 88.58 % (18)). It was also found that medical students have higher prevalence of social media use compared to paramedical course students (18) which is similar to our finding in this study. In Kolkata study among medical undergraduates, it was reported that more than 90% use more than one social networking medium and one-third remain active all through the day and 80% for ≥ 4 hours (19). In the same study, 24% reported depression and 68.5% had anxiety.

Perceived Social Isolation among social media users

Globally mixed findings of both positive and negative influences of social media usage on the mental health of the users have been widely debated. 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 first 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 and subjective in interpretation leading to failure to arrive at a common definition (20). Isolation impacts social relationships resulting in failure to establish meaningful connections 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) Wider interest in understanding the impact of social media use on spectrum

of health ranging from physical, social, emotional and cognitive dimensions were attempted among adolescents and young college going adults (22-25). Our study contributed to expand the literature by understanding the influence of social media on the psychosocial wellbeing and 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. All professional course students including computer courses, have been subjects of interest for researchers and mimic similar findings even in culturally different contexts with digital literacy slowly expanding due to wider accessibility and affordable data packages. (27,28, 29, 30).

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.(31) 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.(32)

Conclusion

The present study identified the levels of perceived social isolation among health care professional student. Multiple social media use characteristics were found to be significantly associated with different levels of perceived social isolation.

Recommendation

Authors believe the present extensive work done in understanding characteristics of social media use and impact on perceived social isolation, including more in-depth study among young adults will provide evidence informed psychosocial support and cognitive behavior therapies aimed at prevention and effective management of it.

Limitation of the study

The self-reported data on social media use and perceived social isolation from the study participants might not be amenable for generalization of data across different settings. 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. Further studies should explore in detail about perceived social isolation.

Relevance of the study

Studies exploring mental and emotional well-being of health care professional students is extremely important to design promotive, preventive, support and rehabilitative systems in the campus and we see increasing trends in suicides in recent times across medical schools.

Authors Contribution

STS conceived the idea of the manuscript, study tools, organized the project, supervised the data collection and drafted the manuscript. KM co-ordinated data collection, data entry, data cleaning and data checks independently and under guidance of primary authors, KRC participated in finalizing data sheets for final analysis, BSM performed the data analysis and supported the manuscript assembling as per journal submission guidelines. All authors reviewed the final manuscript.

Acknowledgement

We acknowledge the support and participation in this survey of all the study participants from Tagore Medical College and Hospital, Chennai. We submit our sincere gratitude to Dr. I. Kannan, PhD, Co-ordinator, IRC, TMCH, Chennai.

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Tables

TABLE 1 DISTRIBUTION OF STUDY PARTICIPANTS ACCORDING TO HCP COURSES.

Demographic factors	Frequency (n=911)	Percentage
Age		
17-21 yrs	636	69.8
22 yrs 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 year	433	47.5
2 nd year	186	20.4
3 rd year	140	15.4
4 th year	111	12.2
5 th year	41	4.5

*AHS-Allied Health Sciences

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 & ABOVE	148	16.2

*PSI: Perceived social isolation

TABLE 3 ASSOCIATION BETWEEN DEMOGRAPHIC FACTORS AND PSI OF STUDY PARTICIPANTS

Variable	PSI			Chi -square
	Low	Medium	High	
1.Age				
17-21 years	317	210	109	0.0001
22 years and above	178	58	39	
2.Gender				
Male	281	48	27	0.0001
Female	214	220	121	
3.Education				
MBBS	389	220	123	0.002
Nursing	46	35	18	
AHS	60	13	7	
4. Year of Study				
1	233	139	61	

2	103	44	39	
3	79	39	22	0.001
4	47	39	25	
5	33	7	1	

TABLE 4 ASSOCIATION BETWEEN HCP COURSE AND SOCIAL MEDIA USE WITH PSI

Variable	PSI			Chi-square
	Low	Medium	High	
1. Social media usage frequency				
Current user	406	221	124	
Past	10	9	8	
Rare	61	31	11	
Never	18	7	5	0.266
2. Reasons for turning to social media (n=880)				
To make more friends	405	215	103	
Not to feel isolated/ lonely	71	46	40	0.002
3. I am a social media user (n=881)				
Passive	349	178	102	
Active	128	83	41	0.361
4. Social media usage contributes to my emotional well being				
Unsatisfactory	21	14	20	
Neutral	283	146	69	0.001
Satisfactory	173	101	54	
5. Social media use makes me feel isolated/lonely				
Often	13	9	20	
Sometimes	70	68	49	0.0001
Rarely or never	394	184	74	
6. Can cope up with social media use & its emotional side effects				
Yes	299	149	84	
No	23	20	20	0.011
Don't know	153	92	39	

TABLE 5 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 & above	268	177	92	537	
Total	495	268	148	911	

TABLE 6 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