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

Sree T. Sucharitha¹, Karthik R. C.¹*, Karthick M.², Balaji S. M.³, Balaji Arumugam¹

¹Department of Community Medicine, ²Student, Tagore Medical College and Hospital, Chennai, Tamil Nadu, India
³Institute of Community Medicine, Madras Medical College, Chennai, Tamil Nadu, India

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*Correspondence:
Dr. Karthik R. C.,
E-mail: rchenchuk86@gmail.com

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.⁴-⁶
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<sup>st</sup>      | 433       | 47.5       |
| 2<sup>nd</sup>      | 186       | 20.4       |
| 3<sup>rd</sup>      | 140       | 15.4       |
| 4<sup>th</sup>      | 111       | 12.2       |
| 5<sup>th</sup>      | 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 Low | PSI Medium | PSI High | Chi -square |
|--------------------------------------------------------|---------|------------|----------|-------------|
| 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 | Low | Medium | High | Total | Chi - square |
|------------------------------------------|-----|--------|------|-------|--------------|
| 0-30 min                                 | 43  | 24     | 12   | 79    |              |
| 31-60 min                                | 54  | 22     | 10   | 86    |              |
| 61-120 min                               | 130 | 45     | 34   | 209   |              |
| 121 min and above                        | 268 | 177    | 92   | 537   | 0.029*       |
| 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, Instagram 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%. 

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.

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. 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 Hawkley 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
Increased risk of - Facebook use predicts declines in -ors -ubjects is hardly predict mental health and sleep problems on the short term. In a correlational study among 467 young people concluding that in their study use of social media is found to be associated with increased social isolation. Heavy users (vs. light) of digital media were 48% to 171% more likely to be unhappy, to be in low in well-being. 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. Interestingly they also reported that among participants who felt addicted to social media networking, 62.8% indicated that it has improved relations. 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. Heavy users (vs. light) of digital media were 48% to 171% more likely to be unhappy, to be in low in well-being. 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.

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.

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REFERENCES
1. Nicholson NR. A review of social isolation: an important but underassessed condition in older adults. J Prim Preven. 2012;33(2-3):137-52.
2. Pantell M, Rehkopf D, Jutte D, Syme SL, Balmes J, Adler N. Social isolation: a predictor of mortality comparable to traditional clinical risk factors. Am J Pub Health. 2013;103(11):2056-62.
3. Holt-Lunstad J, Smith TB, Baker M, Harris T, Stephenson D. Loneliness and social isolation as risk factors for mortality: a meta-analytic review. Persp Psychol Sci. 2015;10(2):227-37.
4. Cacioppo JT, Hawkley LC. Perceived social isolation and cognition. Trends Cogn Sci. 2009;13(10):447-54.
5. Holwerda TJ, Beekman AT, Deeg DJ, Stek ML, van Tilburg TG, Visser PJ, et al. Increased risk of mortality associated with social isolation in older men: only when feeling lonely? Results from the Amsterdam Study of the Elderly (AMSTEL). Psychol Med. 2012;42(4):843-53.
6. Holwerda TJ, Deeg DJ, Beekman AT, van Tilburg TG, Stek ML, Jonker C, et al. Feelings of loneliness, but not social isolation, predict dementia onset: results from the Amsterdam Study of the Elderly (AMSTEL). J Neurol Neurosurg Psychi. 2014;85(2):135-42.
7. Steinfeld C, Ellison NB, Lampe C. Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. J Appl Develop Psychol. 2008;29(6):434-45.
8. Ellison NB, Steinfeld C, Lampe C. The benefits of Facebook “friends”: Social capital and college students’ use of online social network sites. J Computer-med Commun. 2007;12(4):1143-68.
9. Kross E, Verduyn P, Demiralp E, Park J, Lee DS, Lin N, et al. Facebook use predicts declines in
subjective well-being in young adults. PloS One. 2013;8(8):e69841.
10. Chou HT, Edge N. “They are happier and having better lives than I am”: The impact of using Facebook on perceptions of others’ lives. Cyberpsychol Behav Soc Network. 2012;15(2):117-21.
11. Sagioglou C, Greitemeyer T. Facebook’s emotional consequences: Why Facebook causes a decrease in mood and why people still use it. Comp Human Behav. 2014;35:559-63.
12. Lin LY, Sidana JE, Shensa A, Radovic A, Miller E, Colditz JB, et al. Association between social media use and depression among US young adults. Depress Anxiety. 2016;33(4):323-31.
13. Cella D, Riley W, Stone A, Rothrock N, Reeve B, Yount S, et al. The Patient-Reported Outcomes Measurement Information System (PROMIS) developed and tested its first wave of adult self-reported health outcome item banks: 2005-2008. J Clin Epidemiol. 2010;63(11):1179-94.
14. Stacciarini JM, Smith R, Garvan CW, Wiens B, Cottler LB. Rural Latinos’ mental wellbeing: A mixed-methods pilot study of family, environment and social isolation factors. Commun Mental Health J. 2015;51(4):404-13.
15. Johnston KL, Lawrence SM, Dodds NE, Yu L, Daley DC, Pilkonis PA. Evaluating PROMIS® instruments and methods for patient-centered outcomes research: Patient and provider voices in a substance use treatment setting. Quality Life Res. 2016;25(3):615-24.
16. Primack BA, Shensa A, Sidana JE, Whaite EO, yi Lin L, Rosen D, et al. Social media use and perceived social isolation among young adults in the US. Am J Preven Med. 2017;53(1):1-8.
17. Bosslet GT, TorkeAM, Hickman SE, Terry CL, Hefft PR. The patient - doctor relationship and online social networks: Results of a national survey. J Gen Intern Med. 2011;26(10):1168-74.
18. Lahiry S, Choudhury S, Chatterjee S, Hazra A. Impact of social media on academic performance and interpersonal relation: A cross-sectional study among students at a tertiary medical center in East India. J Educ Health Promot. 2019;8:73.
19. Barman L, Mukhopadhyay DK, Bandyopadhyay GK. Use of social networking site and mental disorders among medical students in Kolkata, West Bengal. Ind J Psych. 2018;60(3):340.
20. Hawkley LC, Hughes ME, Waite LJ, Masi CM, Thisted RA, Cacioppo JT. From social structural factors to perceptions of relationship quality and loneliness: the Chicago health, aging, and social relations study. J Gerontol Series B: Psychol Sci Soci Sci. 2008;63(6):S375-84.
21. Bronfenbrenner U. The ecology of human development. Harvard university press; 1979.
22. De Jong-Gierveld J, Kamphuls F. The development of a Rasch-type loneliness scale. Appl Psychol Measur. 1985;9(3):289-99.
23. Russell D, Peplau LA, Cutrona CE. The revised UCLA Loneliness Scale: concurrent and discriminant validity evidence. J Person Soci Psychol. 1980;39(3):472.
24. Russell DW. UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. J Person Assess. 1996;66(1):20-40.
25. Bhatti AB, ul Haq A. The pathophysiology of perceived social isolation: effects on health and mortality. Curesus. 2017;9(1):994.
26. Twenge JM, Campbell WK. Media use is linked to lower psychological well-being: Evidence from three datasets. Psych Quar. 2019;90(2):311-31.
27. Berryman C, Ferguson CJ, Negy C. Social media use and mental health among young adults. Psych quar. 2018;89(2):307-14.
28. van der Velden PG, Setti I, van der Meulen E, Das M. Does social networking sites use predict mental health and sleep problems when prior problems and loneliness are taken into account? A population-based prospective study. Comp Human Behav. 2019;93:200-9.

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