Assessment of Selfie addiction, and Selfitis among Allied Health Sciences students of a tertiary care hospital in Chennai, Tamil Nadu

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ABSTRACT
A selfie is a self-portrait photograph typically taken with a camera phone held in hand or supported by a selfie stick. Studies suggest that the level of selfie addiction among youngsters has been increasing over the years. Selfitis is the term that is being widely used to denote selfie addiction. This study aims at assessing the level of selfie addiction and various factors associated with it, and to evaluate the relationship between selfie addiction and addictive selfie habits. A cross-sectional study was conducted among the Allied Health Science students of a tertiary care hospital in Chennai. Two hundred seventy-three students were studied by convenient sampling method. A pre-tested, validated, structured and self-administered questionnaire was given, and the desired information was elicited. Chi-square test was used to test the significance (p <0.05). A total of 287 students were studied, of which 65 (22.6%) were males, and 222 (77.4%) were females. It is observed that age, year of study, the place from which they come, place of stay and father’s occupation have a statistically significant relationship with selfie addiction. Most of the selfie addictive behaviours have a female preponderance. A significant portion of the youth is in the early stage of selfie addiction. Hence it is highly essential to spread awareness about the ill effects of selfie addiction among the youngsters to curb this addiction earlier.

INTRODUCTION
A recent development in the field of technology is the ‘Selfie’, which is a self-portrait photograph typically taken with a digital camera or camera phone held in hand or supported by a selfie stick (Saroshe, 2016). In recent times, rather than to treasure memories, selfies have led to a type of behavioural addiction called ‘SELFITIS’. The APA has stated that Selfitis is an ‘obsessive-compulsive desire to take photos of one’s self and post them on social media as a way to make up the lack of self-esteem and to fill a gap in intimacy (Singh, 2016).

Clicking selfies initially start with a fun, and as time passes, it becomes a habit and later an addiction (Nagaraju and Chikkegowda, 2019). Posting selfies on social media for likes and comments have increased the level of addiction. They develop mental, physical and social dependency on the internet and selfies (Gaddala et al., 2017). They use social media to mediate interpersonal interaction to fulfill their self-esteem needs (Varnali and Toker, 2015). Selfitis on a later basis leads to decreased concentration and productivity of the youth. It also has paved the way for many other medical complications like frozen shoulders, back pain, cervical spondylitis (Kela et al., 2017).

We have also come across cases of fatality of individuals trying to take dangerous selfies. The first
Table 1: Association between Selfitis behavior scale and Socio-demographic characteristics

| Variables          | Mild N (%) | Moderate N (%) | Severe N (%) | *P Value (<0.05) |
|--------------------|------------|----------------|--------------|------------------|
| **Age (in years):**|            |                |              |                  |
| 17-19              | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.002            |
| 20-22              | 17 (5.9%)  | 33 (11.5%)     | 6 (2.1%)     |                  |
| >23                | 0 (0%)     | 0 (0%)         | 2 (0.7%)     |                  |
| **Year of study:** |            |                |              |                  |
| 1st Year           | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.001            |
| 2nd Year           | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |
| 3rd Year           | 37 (12.9%) | 0 (0%)         | 2 (0.7%)     |                  |
| **Place:**         |            |                |              |                  |
| Rural              | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.017            |
| Urban              | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |
| **Place of stay:** |            |                |              |                  |
| Hostel             | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.024            |
| With parents       | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |
| **Father’s occupation:** |      |                |              |                  |
| Professional       | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.008            |
| Business           | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |
| **Retired:**       |            |                |              |                  |
| Unemployed         | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.001            |
| Clerical           | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |
| **With relatives:**|            |                |              |                  |
| With friends       | 38 (13.2%) | 154 (53.7%)    | 37 (12.9%)   | 0.024            |
| Alone in an apartment | 154 (53.7%)| 33 (11.5%)     | 6 (2.1%)     |                  |

*Chi square test

known selfie-related death occurred on 15th March 2014, when a man electrocuted himself on top of a train (Domlur et al., 2018). Since then, there have been 259 deaths reported all over the world (Singh, 2016). Since there is a gap in the literature in this fast-growing problem, this study was intended to explore more about it to identify, assess the level of addiction and to curb the ill effects and provide them with support to come out of it.

**Aims and Objectives:**

To assess the level of Selfie addiction and various factors associated with it, to evaluate the relationship between selfitis behaviour and addictive selfie habits and to determine the magnitude of the association between level of selfie behaviour and selfitis

**MATERIALS AND METHODS**

A cross-sectional study was conducted in an Allied Health Science College among Physiotherapy students in Chennai, Tamil Nadu. Based on a review done by Singh v et al. (Singh and Yadav, 2018), it was seen that 20.5% of subjects had acute selfitis. Using the formula $4pq/d^2$ and considering 5% allowable error, the sample size was calculated as 261, taking 5% non-respondent rate, the final estimated sample size is 273. All the subjects who were willing to participate in the study were included in the study by convenient sampling method. Informed written consent was obtained from all the study participants before eliciting the desired information. A Pre-tested, validated, structured and self-administered questionnaire, consisting of their socio-demographic details, Selfitis behaviour scale (Singh and Yadav, 2018) which consists of 10 points Likert scale questionnaire, where the scores are 0-33: Mild selfitis behaviour, 34-67: Moderate selfitis behaviour, and 68-100: Severe selfitis behaviour, and a structured questionnaire on types of selfitis were used as study tools for the study. The APA has classified Selfie addiction (Singh
Acute Selfitis - 3 selfies per day and sharing it on social media and Chronic Selfitis - At least six selfies per day and sharing them in social media. The data was then entered into the excel sheet and analyzed by using SPSS Software version 22. The frequencies and percentages were calculated. Chi-square test was used to find the association, and p-value <0.05 was considered significant. This study had obtained the ethical clearance approval from the Institutional Ethical Committee of Saveetha Medical College and Hospital, Chennai.

RESULTS AND DISCUSSION

A total of 287 students were studied, of which 65 (22.6%) were males, and 222 (77.4%) were females. A majority (79.8%) were between the age group 17-19 years. The majority (86.4%) were Hindus by religion. 53% were from 1st year, 25.8% and 21.3% were from 2nd and 3rd years, respectively. The majority (85.7%) lived in a nuclear family. The family income of maximum students (45.6%) fell in the category of Rs.11,000-30,000. 65.2% of the students lived in urban areas. 69.0% of the students stayed in their homes, whereas 27.5%, 2.4%, 0.3% and 0.7% stayed in the hostel, relative’s house, friend’s house or alone in apartments respectively. The fathers of maximum students (25.8%) were occupied in professional work. The mothers of maximum students (80.5%) were home-makers. From Table 1, it is observed that age, year of study, residence, place of stay and father’s occupation have statistically significant relationship with selfie addiction. Whereas gender, religion, type of family, total family income and mother’s occupation was not statistically significant. 44.3% of students from urban areas and 51.2% of female students are moderately addicted. Students who lived in nuclear families had a maximum level of moderate (56.1%) and severe (12.5%) addiction. The level of moderate selfie addiction is maximum (38.0%) among 1st year students. Maximum number of moderate (46.0%) and severe (8.4%) addiction were found among students who lived with their parents.

From Table 2, it is observed that maximum female students (38.7%) took selfies weekly, whereas maximum male students (11.1%) took selfies monthly. A majority of students (96.9%) said that they take group selfies. A maximum number of students (53.3%), with a female preponderance, said that they take selfies for time pass. 32.8% of the students said that they get annoyed when interrupted while taking selfies. 4.2%, 3.1%, 0.7% and 1.4% of the students felt sad, irritable, depressed and angry respectively when they were not able to take selfies, with a female preponderance.

From Table 3, it is observed that there is a significant relationship between all the variables of selfie addictive behaviour and selfitis behaviour scale. 6.6% and 5.9% of the students who fell under the category of moderate and severe addiction felt themselves uncontrollable after they start taking selfies. 15.0% of the students stated that they take selfies even in sad situations. 10.5% and 8.4% of the students who were moderate and severe addiction respectively had stated that they tried to cut down the number of selfies taken, but failed. 5.2% of the students have said that they cannot survive without taking selfies and 2.4% of the students wanted to take counseling to reduce their selfie addiction.

From Table 4, it is observed that maximum number of students (35.5%) with borderline selfitis had moderate levels of addiction in the selfitis behavior scale, followed by 16.0%, 7.0% and 6.6% with acute, normal and chronic selfitis respectively. Among severely addicted students, most of them (6.3%) fell in the category of borderline selfitis, followed by 4.9% and 3.5% in chronic and acute levels of addiction respectively.

From Figure 1, it is observed that 11.8% and 17.8% of females fall under acute and chronic selfitis. It is also noted that at all the levels, there is a female preponderance. Finally, 5 students mentioned that they wanted counseling to come out of selfie addiction.

In our study, 10.1% of the participants said they take selfies to send it to their friends who were similar to studies done by Satish Saroshe et al. (Saroshe, 2016) and Nath Som et al. (Som et al., 2017) were 15% and 12% of the participants stated the same reason respectively. In our study, the gender difference was not noticed in selfie-taking behavior similar to the study by Dom Joy et al., (Joy and Venkatachalam, 2019) From our study we find that 33.8% of the students agree that they edit images using software to make themselves more appealing due to the lack of self-esteem as stated in the study done by Fox and Rooney (Fox and Rooney, 2015). The study done by Era Dutta et al. (Sousa et al., 2016) in 2016 among 11th standard student shows a result that 10% of the students use similar software. Hence, we can understand that during these three years, with the advancement of various software, addiction to selfies have also increased proportionally. In our study, 9.8% of participants said they took selfies to mainly post it on social media which is slightly lesser than the finding of 14% of the participants in the research done by Satish Saroshe et al., 2018 into three stages: “Borderline- Up to 3 selfies per day but not sharing on social media, Acute Selfitis- 3 selfies per day and sharing it on social media and Chronic Selfitis- At least six selfies per day and sharing them in social media”. The data was then entered into the excel sheet and analyzed by using SPSS Software version 22. The frequencies and percentages were calculated. Chi-square test was used to find the association, and p-value <0.05 was considered significant. This study had obtained the ethical clearance approval from the Institutional Ethical Committee of Saveetha Medical College and Hospital, Chennai.

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Table 2: Gender based assessment of selfitis habits among study participants

| Variables | Gender | Total N (%) |
|-----------|--------|-------------|
|           | Male N (%) | Female N (%) |            |
| Frequency of selfies: | | | |
| Daily | 6 (2.1%) | 27 (9.4%) | 33 (11.5%) |
| Weekly | 27 (9.4%) | 111 (38.7%) | 138 (48.1%) |
| Monthly | 32 (11.1%) | 84 (29.3%) | 116 (40.4%) |
| Do you take group selfies? | | | |
| Yes | 61 (21.3%) | 217 (75.6%) | 278 (96.9%) |
| No | 4 (1.4%) | 5 (1.7%) | 9 (3.1%) |
| Reason for taking selfies: | | | |
| Time pass | 26 (9.1%) | 127 (44.3%) | 153 (53.3%) |
| To admire myself | 14 (4.9%) | 63 (22.0%) | 77 (26.8%) |
| To post it on social media | 15 (5.2%) | 13 (4.5%) | 28 (9.8%) |
| To send it to my friends | 10 (3.5%) | 19 (6.6%) | 29 (10.1%) |
| Do you post all the selfies that you take on social media? | | | |
| Yes | 8 (2.8%) | 7 (2.4%) | 15 (5.2%) |
| No | 57 (19.9%) | 215 (74.9%) | 272 (94.8%) |
| Do you get annoyed when interrupted while taking selfies? | | | |
| Yes | 20 (7.0%) | 74 (25.8%) | 94 (32.8%) |
| No | 45 (15.7%) | 148 (51.6%) | 193 (67.2%) |
| How do you feel when you are not able to take selfies? | | | |
| Angry | 2 (0.7%) | 2 (0.7%) | 4 (1.4%) |
| Depressed | 1 (0.3%) | 1 (0.3%) | 2 (0.7%) |
| Irritable | 0 (0.0%) | 9 (3.1%) | 9 (3.1%) |
| Sad | 3 (1.0%) | 9 (3.1%) | 12 (4.2%) |
| Normal | 59 (20.6%) | 201 (70.0%) | 260 (90.6%) |

Figure 1: Gender based assessment on selfitis among the study population
Table 3: Association between selfie addictive behaviour and selfitis behaviour scale

| Addictive behaviour variables                                      | Mild N (%) | Selfie behaviour scale          | *P value (<0.05) |
|-------------------------------------------------------------------|------------|---------------------------------|-----------------|
|                                                                  |            | Mild N (%) | Moderate N (%) | Severe N (%) |
| I find myself uncontrollable once I start taking selfies:         |            |            |                |              |
| Yes                                                               | 2 (0.7%)   | 19 (6.6%) | 17 (5.9%)      | 0.000         |
| No                                                                | 53 (18.5%) | 168 (58.5%) | 28 (9.8%)      |               |
| I take selfies even during sad situations:                        |            |            |                |              |
| Yes                                                               | 2 (0.7%)   | 28 (9.8%) | 13 (4.5%)      | 0.002         |
| No                                                                | 53 (18.5%) | 159 (55.4%) | 32 (11.1%)     |               |
| I endeavor to cut down the number of selfies I take, but I fail:  |            |            |                |              |
| Yes                                                               | 5 (1.7%)   | 30 (10.5%) | 24 (8.4%)      | 0.000         |
| No                                                                | 50 (17.4%) | 157 (54.7%) | 21 (7.3%)      |               |
| I cannot survive without taking selfies:                         |            |            |                |              |
| Yes                                                               | 0 (0.0%)   | 6 (2.1%)  | 9 (3.1%)       | 0.000         |
| No                                                                | 55 (19.2%) | 181 (63.1%) | 36 (12.5%)     |               |
| I need counseling to reduce my selfie addiction:                  |            |            |                |              |
| Yes                                                               | 0 (0.0%)   | 2 (0.7%)  | 5 (1.7%)       | 0.000         |
| No                                                                | 55 (19.2%) | 185 (64.5%) | 40 (13.9%)     |               |

*Chi square test

Table 4: Association between selfitis and selfie behaviour scale

| Selfitis variables | Mild N (%) | Selfie behaviour scale | *P value (<0.05) |
|--------------------|------------|------------------------|-----------------|
| Normal             | 9 (3.1%)   | 20 (7.0%)              | 3 (1.0%)        | 0.003         |
| Borderline         | 33 (11.5%) | 102 (35.5%)            | 18 (6.3%)       |               |
| Acute              | 9 (3.1%)   | 46 (16.0%)             | 10 (3.5%)       |               |
| Chronic            | 4 (1.4%)   | 19 (6.6%)              | 14 (4.9%)       |               |

*Chi square test

al. (Saroshe, 2016) done among medical students of MGM Medical College, Indore. These medical students from North India comparatively have a better reach to technology compared to AHS students in the South, due to which the values are slightly higher. In our study, 53% of the participants stated that they take selfies for time pass. In contrast, in the survey by Raghavendra Nagaraju et al. (Nagaraju and Chikkegowda, 2019) done on medical students, it was 30% as medical students are occupied with academics and rarely find time to relax.

In our study, 78.8% of the participants said that they take selfies for memories but only 7% post it on social media. In our study, 11.1% are normal, and 12.9% are affected by chronic selfitis. On the contrary, the study was done by Hari Kumar et al. (Gaddala et al., 2017) 80% of the participants said that they take selfies for memories, but only 7% post it on social media. In our study, 11.1% are normal, and 12.9% are affected by chronic selfitis. On the contrary, the study was done by Hari Kumar et al. (Gaddala et al., 2017) in 2017 has observed that 24% were normal, and only 1% was affected by chronic selfitis. Our study shows that 53.3% are affected by borderline selfitis, and this is slightly higher than the results of a study done by Raghavendra Nagaraju et al. (Nagaraju and Chikkegowda, 2019) where 48.7% are affected by the same (Nagaraju and Chikkegowda, 2019).

The maximum number of moderate (56.1%) and severe (12.5%) addiction was found to be more
among the students who lived in nuclear families, as they don’t spend much time with the relatives. If both their parents are working, they are left with none to interact and hence engage in taking more selfies. Students from urban areas were affected more, where 44.3% were moderately addicted due to the increased development and reach of technology in these areas compared to rural areas. It was found that a maximum number of moderate (46.0%) and severe (8.4%) addiction were found among students who lived with parents compared to those in the hostel who get to spend a lot of time with their friends and hence are rarely bored.

The entire students have not participated in the study, and only a small number of students were sampled, which is a limitation. Awareness about the harmful effects of selfitis and how to overcome it should be created among the youth. Creative and other extracurricular activities should be organized apart from the routine academics to channelize their boredom. Counseling sessions can be arranged in all the colleges.

CONCLUSIONS

An early stage of selfitis was seen in nearly half of the study participants, and there was an association between selfitis and selfitis behaviour scale. It is understood that if this addiction like any other addiction if curbed earlier can lead to a better and productive youth power. Awareness about the harmful effects of selfitis and how to come out of it should be created among the youth. Since many students stated that they took selfies only because they were bored, creative and, other extracurricular activities should be organized apart from the routine academics to channelize their boredom. Counseling sessions can be arranged in all the colleges.

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Conflict of interest

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