Research Article

Prevalence of Selfitis and its Impact on Self-Concept among Nursing Students

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A B S T R A C T

Introduction: Selfitis, an obsessive-compulsive desire to take one's own selfies and post them on social media, has become prevalent among adolescents nowadays. This study was conducted with the objectives of assessing the prevalence of selfitis among nursing students, exploring the impact of selfitis on self-concept and developing and disseminating an information booklet to enhance self-concept.

Method: A quantitative approach was adopted for the study using an exploratory study design. 274 Nursing students of St Stephen's Hospital College of Nursing, Tis Hazari, Delhi were selected using the Total Enumerative Sampling Technique. The tools used for data collection were a standardised scale (Selfitis Behaviour Scale) and a structured scale (Selfitis Impact Assessment Scale). The tool was validated by 7 experts from mental health nursing and psychiatry departments. The reliability of the tool was established by using Cronbach's Alpha and was found to be 0.72. The data obtained was analysed and interpreted using both descriptive and inferential statistics in terms of frequency and percentage distribution.

Results: Results from the Selfitis Behaviour Scale showed that among 274 nursing students, 3% had borderline selfitis, 68% had acute selfitis and 29% had chronic selfitis and the result from the selfitis impact assessment scale showed that 3% had mild impact of selfitis on self-concept, 87% had moderate impact of selfitis on self-concept and 10% had severe impact of selfitis on self-concept.

Conclusion: This study showed the increasing prevalence of selfitis among adolescents and its impact on self-concept.

Keywords: Selfitis, Self-Concept, Nursing Students

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Introduction

We live in an era of rapid technological change. The progress in technology has brought forward changes in daily living to such an extent that all we see around us today was once deemed impossible. Today life is unimaginable without any kind of technology. It has become an indispensable part of our daily lives in almost every aspect. The progress of technology was aimed to improve everyday life and make existence easier.

The first telephone was invented by Alexander Graham Bell to make communication easier. The phone advanced and today became a means of entertainment as well. Selfie is one such part of entertainment in modern society.[1]

Selfie is a recent sensation and was named as the word of the year in 2013 by Oxford Dictionary.[2] It is described as a picture that a person takes of himself (or a group) using a mobile phone for the purpose of sharing on social media. Google estimated that 24 billion selfies were uploaded to Google Photos in 2015. Technological advancements like the introduction of "selfie sticks" and "selfie shoes" have increased the passion among people for selfies. These days, the choice of smartphones is based on their camera picture quality. In addition, these days educational institutions also promote selfie-taking behaviour through various props and set-ups in events.[3]

The word 'selfie' was coined in 2002, by Nathan Hope who for the very first time posted on an online forum "Selfie" along with a self-photograph that showed stitches in his lower lip.[4] According to Seiter in 2015, posting selfies reflected high self-esteem and also proved to enhance one's self-esteem because such photographs generally emphasised one's ideal self and controlled image.[5] Selfies became famous and more common with the introduction of front-facing cameras in smartphones. Once selfies became mainstream, filters from Instagram and other applications helped people edit their selfies- motivating them to capture and share selfies more frequently.[6] Self-esteem plays a vital role in explaining pupils' selfie-posting behaviours. Previous studies determining relationships between self-esteem and self-presentation on social media have yielded controversial results.[7]

American Psychiatric Association (APA) in 2014, classified selfitis as a phenomenon characterised by an obsessive-compulsive desire to take one's own selfies and post them on social media to compensate for the lack of self-esteem.[8]

In 2017, a research paper was published in the International Journal of Mental Health and Addiction, by Nottingham Trent University in the UK and the Thiagarajar School of Management in India, which reported that selfitis is a genuine disorder. The study concluded that selfitis sufferers were attention seekers, they lacked self-confidence and hoped to boost their social standing and feel part of a group by continuously posting selfies.[9]

In 2014, the condition of selfitis was classified as a mental disorder by the American Psychiatric Association and it was categorised as borderline, acute, or chronic, as per various National and International media. Six factors leading to selfitis have been identified in a study conducted by Balakrishnan and Griffiths in the year 2017. The factors that were found included environmental enhancement, social competition, attention-seeking, mood modification, self-confidence and social conformity.[10] In recent times, there has been an increase in the ill effects of selfie obsession in the minds of individuals. These effects include low self-esteem, body image issues, anxiety, depression and many more. All of this stems from an individual having an inadequate self-concept. Social media users idolise influencers and celebrities and aim to be like them via the snippets they share through their selfies. The pictures they share receive thousands of likes and comments. The impressionable minds of people are influenced by the number of likes and comments, pushing them to strive for "perfection". This strive in reality is an aim towards the impractical standards set by society and with the advancement of technology, social media has played a pivotal role in the promotion of such standards. Selfie fever has led many people to the extent of risking their lives just for 'the perfect capture'. Selfie fever has impacted both the physical aspect as well as the mental aspect of health.[4]

A study conducted in 2018 by March and McBean showed that higher levels of grandiosity and behaviours like exhibitionism, narcissism and lower levels of self-esteem were associated with posting more selfies. The results of the study showed a significant association between selfies and narcissism and also reflected that self-esteem played a fundamental role in posting selfies.[11]

Since it has been noted that decreased self-concept results in increased selfie-taking behaviour, the researchers decided to assess the prevalence of selfitis, its impact on the self-concept of individuals and to spread a sense of awareness with the help of information booklet that one's self-concept not only depends on mere selfies and approval of physical appearance but rather on their abilities, physical characteristics, goals and roles in life.

Objectives

- To assess the prevalence of selfitis among nursing students
- To explore the impact of selfitis on self-concept
- To develop and disseminate an information booklet to enhance self-concept

Review of Literature

Literature Related to the Prevalence of Selfitis

Behera et al.[12] conducted a cross-sectional study in 2018 to assess the prevalence of dangerous selfie-taking among 595 medical and nursing students at AIIMS, Bhubaneswar,

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India. A structured interview schedule and Selfitis Behaviour Scale were used to collect the data. Out of 595 participants, 70.6% preferred to take selfies, 40.3 preferred to daily post selfies on social media, 8.74% reported taking dangerous selfies, and 1.2% reported taking dangerous selfies and getting injured. Therefore, it was concluded that 1 in 10 medical and nursing students had taken a dangerous selfie and 1 in 100 reported having been injured while attempting to take a selfie.

Balakrishnan and Griffiths[10] conducted an exploratory study in 2017 to assess the prevalence of selfitis and to develop the Selfitis Behaviour Scale. This study was conducted among 225 students of Indian University Management Schools. Focus group interviews were used to generate scale components followed by statistical testing for the Selfitis Behaviour Scale. Six factors were identified namely environmental enhancement, social competition, attention seeking, mood modification, self-confidence and social conformity. These factors were found to be the probable reasons for selfitis and thus the Selfitis Behaviour Scale was found to be a reliable (0.876) and a valid tool for assessing selfitis.

Literature Related to the Impact of Selfitis on Self Concept

George and Sharma[5] conducted a descriptive study in 2019 on the impact of selfitis on psychosocial health; body image and self-esteem among 250 adolescents in a selected school in Delhi. A structured rating scale was used for data collection. Results showed that 90.8% had a moderate impact of selfitis on their body image, while 9.2% had a low impact on their body image. 10.4% of adolescents had a low impact of selfitis on self-esteem, 77.2% of adolescents had a moderate impact and 12.5% had a high impact of selfitis on self-esteem. This study concluded that there was a moderate impact of selfitis on body image as well as self-esteem of adolescents and it also emphasised the need to educate the parents of adolescents to differentiate between normal and excessive selfie-taking behaviour and how technology can be a boon or bane.

Mohamed and Karim[13] conducted a descriptive study in 2019 on the effect of selfitis on self-esteem, body image, and academic achievement among 137 nursing students at Zagazig University, Alsharkia Governorate. The Multistage Sampling Method was used to select the samples. 5 tools were used in this study: the sociodemographic variables sheet, the Selfie-Taking Behaviour Scale, the Self-Esteem Scale, the Body Image Scale, and the Academic Achievement Scale. The results indicated that about three-fourths of the participants had an acute level of selfitis behaviour and the rest had a chronic level of selfitis behaviour. Through this study, it was found that the maximum percentage of students had acute selfitis behaviour and the lowest percentage had borderline selfitis behaviour. More than half of them had negative body image and the majority of them had moderate academic achievement.

Research Methodology

The research design employed for this study was exploratory, conducted at St Stephen's Hospital College of Nursing in Delhi during 2022. The population under investigation consisted of nursing students enrolled in the college. Total enumerative sampling was utilised, aiming to include all 274 nursing students currently studying at St Stephen's Hospital College of Nursing, Delhi. This approach ensured a comprehensive representation of the student body, facilitating a detailed examination of the prevalence and impact of selfitis on self-concept among nursing students in the specified academic setting. Approval for the study was obtained from the Institutional Ethics Committee and all participants gave their consent before its commencement.

Instruments

Tool 1

Tool 1 is divided into two sections:

Section A: Sociodemographic Variables

This tool consisted of 13 questions in order to collect data for assessing factors that may be contributing to the prevalence of selfitis. The questionnaire assessed information such as year of nursing programme, type of family, number of siblings, area of residence, monthly family income, number of selfies taken and posted every day, preferred social media platform for posting selfies, mode of internet connection used and occupational and educational status of parents, etc.

Section B: Selfitis Behaviour Scale

Balakrishnan and Griffiths conducted an exploratory study in 2018 on selfitis and developed the Selfitis Behaviour Scale.[10] The reliability of the standardised tool was found to be 0.86. The scale consists of 20 questions to assess the prevalence of selfitis and the grading criteria are as follows:

Borderline: Taking photographs of oneself at least 3 times a day but not posting them on social media

Acute: Taking photographs of oneself at least 3 times a day and posting each of them on social media

Chronic: Uncontrollable urge to take one's photographs round the clock and post more than 6 times a day

The scoring criteria of the Selfitis Behaviour Scale are as follows:

Borderline Selfitis: 0–33; Acute Selfitis: 34–67; Chronic Selfitis: 68–100

Tool 2

Selfitis Impact Assessment Scale

Based on Carl Rogers' theory of self-concept in which self-concept is divided into 3 components, i.e., ideal self, self-image and self-esteem, a self-structured Likert scale was used, which had 15 questions. They were used to

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assess the impact of selfitis on self-concept. The scale was graded as follows:

Severe Impact: 50–75; Moderate Impact: 25–49; Mild Impact: ≤ 24

Content Validity

The content validity of the tool was determined with the opinions of 7 experts from the Departments of Psychology, Mental Health and Medical Surgical Nursing. Necessary modifications were made based on the suggestions of the experts. The final tool consisted of 15 items. The tool was found to be valid for the study.

Reliability

- The reliability of the standardised Selfitis Behaviour Scale was 0.86.

- A pilot study was conducted to establish the reliability of the Selfitis Impact Assessment Scale. The estimated reliability of the entire test (denoted by 'r') was established at 0.72 using Cronbach's Alpha formula. Hence, the tool was found to be reliable.

Data Collection Procedure

- The final study was conducted from May 30 to June 4, 2022 at St Stephen's Hospital College of Nursing, Delhi with a sample of 274 nursing students who were selected using total enumerative sampling technique.

- Informed consent was obtained from the research participants, and anonymity and confidentiality were assured.

Data Analysis Methods Including Statistical Tests

The data obtained was statistically analysed using frequency and percentage.

Results

The results of the analysis of data were organised and presented under the following sections:

Section A: Findings related to sociodemographic variables of nursing students

- Frequency and percentage distribution of demographic characteristics of nursing students

Section B: Findings related to the prevalence of selfitis among nursing students

- Frequency and percentage distribution of prevalence of selfitis among nursing students

Section C: Findings related to the impact of selfitis on self-concept among nursing students

- Frequency and percentage distribution of the impact of selfitis on self-concept among nursing students

Section A: Findings Related to Sociodemographic Variables of Sample

A significant portion of the nursing students were distributed across different academic years: 31.02% were from the first year, 32.48% from the second year, and 36.49% from the third year. In terms of family structure, 77.00% belonged to nuclear families, 22.62% to joint families, and 0.36% to extended families. The majority of students had one sibling (43.06%), followed by two siblings (33.57%), more than two siblings (17.88%), and 5.47% with no siblings (Table 1).

Regarding monthly family income, 6.93% of students fell in the category of ≤ INR 10,000, 23.72% between INR 10,001 and 30,000, 29.56% between INR 30,001 and 50,000, 25.91% between INR 50,001 and 1,00,000, and 13.86% above INR 1,00,000. In terms of parental education, 40.51% of fathers were graduates, 26.27% had completed higher secondary education, and 37.22% of mothers were graduates, with 22.26% educated up to 10th standard.

A large majority of nursing students (91.6%) hailed from urban areas. The predominant occupation among fathers was private jobs (40.14%), while among mothers, it was homemaking (54.01%). In terms of internet usage, 78.18% used mobile data, and 56.93% did not take selfies daily.

Regarding social media preferences, 78.18% preferred Instagram, 5.10% Facebook, and 4.37% Snapchat. Lastly, 85.76% of students did not post selfies daily, with 13.13% posting 1–3 selfies per day.

Table 1.Frequency and Percentage Distribution of Demographic Data of Nursing Students (N = 274)

S. No.	Sociodemographic Data	Frequency (f)	Percentage (%)
1	**Year of nursing programme**		
	1st	85	31.02
	2nd	89	32.48
	3rd	100	36.49
2	**Type of family**		
	Nuclear	211	77.00
	Joint	62	22.62
	Extended	1	0.36

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3	**Area of residence**		
	Rural	23	8.39
	Urban	251	91.60
4	**No. of siblings**		
	None	15	5.47
	1		43.06
	2	92	33.57
	> 2	49	17.88
5	**Family income (monthly in INR)**		
	≤ 10,000	19	6.93
	10,001–30,000	65	23.72
	30,001–50,000	81	29.56
	50,001–1 lakh	71	25.91
	> 1 lakh	38	13.86
6	**Education of father**		
	No formal education	12	4.37
	Up to 10th standard	52	18.97
	Higher secondary	72	26.27
	Diploma	17	9.85
	Graduation & above	111	40.51
7	**Education of mother**		
	No formal education	23	8.39
	Up to 10th standard	61	22.26
	Higher secondary	54	19.70
	Diploma	34	12.40
	Graduation & above	102	37.22
8	**Occupation of father**		
	Government job	55	20.07
	Private job	110	40.14
	Self-employed	67	24.45
	Unemployed	10	3.64
	Homemaker	1	0.36
	Retired	15	5.47
	Any other	16	5.83
9	**Occupation of mother**		
	Government job	42	15.32
	Private job	53	19.34
	Self-employed	15	5.47
	Unemployed	10	3.64
	Homemaker	148	54.01
	Retired	2	0.72
	Any other	4	1.45

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	Mode of internet connection used		
10	Mobile data	146	53.28
	Wi-Fi	118	43.06
	Broadband connection	6	2.18
	Any other	4	1.45
	Preferred social media platform for posting pictures		
11	Instagram	214	78.18
	Facebook	14	5.10
	Snapchat	12	4.37
	Twitter	3	1.09
	Any other	31	11.31
	No. of selfies taken per day		
12	0	156	56.93
	1–4	100	36.49
	5–8	12	4.37
	> 8	6	2.18
	No. of selfies posted per day		
13	0	235	85.76
	1–3	36	13.13
	> 3	3	1.09

Section B: Findings Related to the Prevalence of Selfitis among Nursing Students

Out of 274 nursing students, 8 (2.91%) had a borderline level of selfitis, 86 (67.33%) had an acute level of selfitis, and 80 (29.19%) had a chronic level of selfitis (Figure 1).
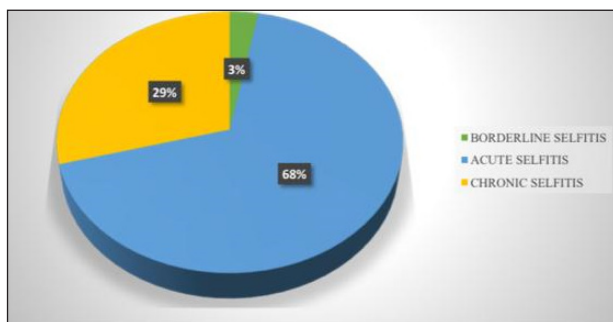
Figure 1.Percentage Distribution According to the Prevalence of Selfitis among Nursing Students

Section C: Findings Related to the Impact of Selfitis on Self-Concept among Nursing Students

Out of 274 nursing students, 9 (3.28%) experienced a mild impact of selfitis on their self-concept. A total of 238 students (86.80%) had a moderate impact of selfitis on their self-concept. Meanwhile, 27 students (9.85%) were found to have a severe impact of selfitis on their self-concept (Figure 2).
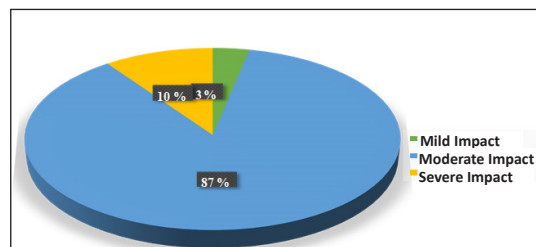

Figure 2.Impact of Selfitis on Self-Concept among Nursing Students

Major Findings of the Study

Out of 274 nursing students, 8 (2.91%) had a borderline level of selfitis, 186 (67.33%) had an acute level of selfitis, and 80 (29.19%) had a chronic level of selfitis. Regarding the impact of selfitis on self-concept, 9 (3.28%) of the nursing students experienced a mild impact, 238 (86.80%) experienced a moderate impact, and 27 (9.85%) experienced a severe impact.

Discussion

Khan et al.[14] conducted a study to determine the relationship between selfitis and health among 250 students aged 18–25 years. Data was collected using a questionnaire. Out of 250 participants, 30% were suffering from low back ache, 15% were having cervical spondylitis, 15% were undergoing stress, 25% from headache and 10% from elbow pain.

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Therefore, it was concluded that taking selfies is fun on one hand, but on the other hand, it has destroyed human health.

Malik et al.[15] conducted a cross-sectional study on narcissism and self-esteem as predictors of selfitis among 200 youth aged between 16 and 24 years, who were selected using convenient sampling technique. Data was collected using the Selfitis Behaviour Scale, Rosenberg Self-Esteem Scale, and Narcissistic Personality Inventory. The results specified that narcissism and selfitis were high in females as compared to males whereas self-esteem was high in males than females. The study concluded that one of the major causes of the development of selfitis among youth was their low self-esteem. Narcissistic personality trait was a significant factor behind selfitis.

Nagaraju and Chikkegowda[16] conducted a cross-sectional study to assess the relationship between selfitis and self-esteem among 347 medical and nursing students. Data was collected using the Selfitis Behaviour Scale and Rosenberg Self-Esteem Scale. Results showed that 48.7% had borderline selfitis, 18.2% had acute selfitis, 3.7% had chronic selfitis, and low self-esteem was seen in only 30.3% of the study participants. The study concluded that there was no significant association between selfitis and self-esteem.

Srivastava et al.[17] conducted a study in 2018 to explore the contributing factors which led to taking and posting selfies. They found five determinants behind selfie-taking behaviour which included good appearance, preserving memories, being driven by mood, mirroring self, and posting selfies on social platforms. They also found 3 factors behind selfie posting, which were social approval, presenting themselves as different and extraordinary and maintaining an online presence.

Bansal et al.[18] conducted a study in 2018 to assess the epidemiology of selfie-related deaths around the world. The study suggested that the most popular social media platforms are YouTube, Instagram, and Snapchat, with between 69% and 85% of users being adolescents from the USA. On the other hand, India has been found to have the greatest number of Facebook users. As per the evidence available from October 2011 to November 2017, 259 deaths have been reported while clicking selfies in 137 incidents. About 72.5% of the total deaths occurred in males and 27.5% in females. The highest number of incidents and selfie deaths have been reported in India, followed by Russia, the United States, and Pakistan. Drowning, vehicle accidents, and fall from heights are the most common reasons for deaths caused by selfies. Reasons for deaths due to selfies are categorised as risky behaviours and non-risky behaviours. Risky behaviours caused more deaths and incidents due to selfies than non-risky behaviours. The number of deaths in females is less due to risky behaviour while it is approximately 3 times more in males.

Conclusion

This was an exploratory study to assess the prevalence of Selfitis and its impact on self-concept among nursing students in a selected college of nursing in Delhi, with a view to enhancing self-concept through an information booklet. The Health Promotion Model by Nola Pender was the basis for the conceptual framework. Results from the Selfitis Behaviour Scale showed that among 274 nursing students, 3% had borderline selfitis, 68% had acute selfitis, and 29% had chronic selfitis. Additionally, results from the Selfitis Impact Assessment Scale indicated that 3% had a mild impact of selfitis on self-concept, 87% had a moderate impact, and 10% had a severe impact on self-concept.

References

1. Coe L. The telephone and its several inventors: a history. Jefferson NC: McFarland & Company, Inc.; 1995. p. 146-66. [Google Scholar]
2. Albury K. Selfies: selfies, sexts and sneaky hats: young people's understandings of gendered practices of self-representation. Int J Commun. 2015;9:12. [Google Scholar]
3. Berndt TJ. Developmental changes in conformity to peers and parents. Dev Psychol. 1979;15(6):608. [Google Scholar]
4. Flaherty GT, Choi J. The 'selfie' phenomenon: reducing the risk of harm while using smartphones during international travel. J Travel Med. 2016;23(2):tav026. [PubMed] [Google Scholar]

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5. George S, Sharma V. Impact of selfitis on psychosocial health viz; body image and self-esteem among adolescents in a selected school of New Delhi. Int J Nurs Midwifery Res. 2019;6(2&3):58-61. [Google Scholar]

6. Saltz J. Art at arm's length: a history of the selfie. New York Magazine. 2014;47(2):71-5. [Google Scholar]

7. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. J Mark Res. 1981;18(1):39-50. [Google Scholar]

8. Pinoy P [Internet]. American Psychiatric Association makes it official: 'selfie' a mental disorder; 2014 Mar 31 [cited 2024 May 24]. Available from: https://adobochronicles.com/2014/03/31/american-psychiatric-association-makes-it-official-selfie-a-mental-disorder/

9. Brown RP, Zeigler-Hill V. Narcissism and the non-equivalence of self-esteem measures: a matter of dominance? J Res Personal. 2004;38(6):585-92. [Google Scholar]

10. Balakrishnan J, Griffiths MD. An exploratory study of "selfitis" and the development of the Selfitis Behavior Scale. Int J Ment Health Addict. 2018;16(3):722-36. [PubMed] [Google Scholar]

11. March E, McBean T. New evidence shows self-esteem moderates the relationship between narcissism and selfies. Pers Individ Dif. 2018;130:107-11. [Google Scholar]

12. Behera P, Singh AK, Bhatia V, Preeti PS, Kumar R, Das S, Tholia R, Ghosh R, Kumar S, Safiya KS, Purohit R. Prevalence and determinants of the dangerous selfie among medical and nursing students: a cross-sectional study from eastern India. BMC Public Health. 2020;20(1):628. [PubMed] [Google Scholar]

13. Mohamed BE, Karim NA. Effect of selfie addiction on self-esteem, body image, and academic achievement among faculty of nursing students. Egypt Nurs J. 2019;16(2):80-91. [Google Scholar]

14. Khan N, Saraswat R, Amin B. Selfie: enjoyment or addiction? J Med Sci Clin Res. 2017;5(1):15836-40. [Google Scholar]

15. Malik NI, Zafar J, Saleemi A. Narcissism and self-esteem as predictors of selfitis among youth. Rawal Med J. 2020;45(2):331-3. [Google Scholar]

16. Nagaraju R, Chikkegowda LK. Selfie: a rising culture. Assessment of selfitis and its relation with self-esteem among medical and nursing students: a cross-sectional study. Natl J Community Med. 2019;10(5):285-9. [Google Scholar]

17. Srivastava S, Upadhaya P, Sharma S, Gupta K. Exploring factors behind offline and online selfie popularity among youth in India. Front Psychol. 2018;9:1403. [PubMed] [Google Scholar]

18. Bansal A, Garg C, Pakhare A, Gupta S. Selfies: a boon or bane? J Family Med Prim Care. 2018;7(4):828-31. [PubMed] [Google Scholar]