EFFECTIVENESS OF A SELFIE REHABILITATION PROGRAM ON SELFIE ADDICTION AMONG NURSING STUDENTS IN BHOPAL: A PILOT QUASI-EXPERIMENTAL STUDY

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ABSTRACT

Introduction: Selfie addiction, a compulsive behavioral pattern involving frequent selfie-taking and social media posting, is increasingly prevalent among youth, especially students. Present study was conducted with aim to evaluate the effectiveness of a structured selfie rehabilitation program in reducing selfie addiction among nursing students. Method: A quasi-experimental design with pre-test and post-test control groups was used. A total of 40 nursing students (aged 18–29 years) from nursing college in Bhopal, Madhya Pradesh, were selected through convenience sampling and divided into experimental (n=20) and control (n=20) groups. Data were collected using three tools: a demographic questionnaire (Tool A), a selfie-taking pattern questionnaire (Tool B), and a 20-item Selfie Addiction Behavior Rating Scale (Tool C). The intervention—a structured selfie rehabilitation program—was administered to the experimental group only. Pre- and post-test scores were analyzed using paired t-tests and ANOVA. Results: The experimental group showed a statistically significant reduction in selfie addiction scores post-intervention (mean difference = -12.4, p<0.001), while the control group showed no significant change (p=0.281). Post-intervention, the experimental group exhibited a shift from chronic to borderline addiction levels, indicating program effectiveness. No significant associations were found between selfie addiction scores and demographic variables (p>0.05). Conclusion: The structured selfie rehabilitation program significantly reduced selfie addiction levels among nursing students. The intervention holds promise as a behavioral strategy to promote healthier smartphone usage, with implications for broader application in student populations..

Keywords: Selfie addiction, rehabilitation program, nursing students, smartphone behavior, quasi-experimental, digital health

INTRODUCTION

The selfie—a self-portrait photograph usually taken with a smartphone—has become a defining feature of digital culture. Originally a casual means of self-expression, the act of taking and sharing selfies has rapidly evolved into a widespread behavioral phenomenon.(1) Among youth, particularly students, selfies have become a prominent tool for self-presentation, social validation, and emotional expression.(2) Selfie addiction is now recognized as a compulsive tendency characterized by a persistent need to take selfies and share them online, often for validation, attention, and self-worth. This growing obsession has been linked with psychological traits such as narcissism, low self-esteem, body dissatisfaction, and social comparison behaviors One study found that excessive selfie behavior correlated positively with narcissism and impulsivity, while it negatively affected self-image, indicating a psychological cost associated with this digital habit.(3)Young adults, especially students, are particularly vulnerable to selfie addiction due to their developmental stage, which includes identity exploration, peer validation, and a heightened sensitivity to social approval.(4)

Compounding the problem is the normalization of selfie-taking behavior, which often masks the signs of addiction. Many students view selfies as harmless or even beneficial for self-confidence. However, when students begin to exhibit anxiety over likes and comments, feel compelled to retake selfies obsessively, or engage in risky behaviors for the "perfect shot," the behavior becomes problematic.The psychological drivers of selfie addiction are diverse. A validated study identified three major factors—intention (purposeful use), self-obsession (excessive self-focus), and self-acceptance (reassurance from others)—as primary components of selfie addiction in university students(5). Another study found that selfie addiction had a negative relationship with one key dimension of psychological well-being—environmental mastery—indicating reduced capacity to manage life responsibilities and environments effectively. Gender, chronic mobile use, and early-morning selfie habits were significantly linked to higher addiction rates. Even more concerning, there are reports of injury and death linked to risky selfie behavior, including attempts to take selfies from dangerous locations, underscoring the severity of this digital compulsion.(6)

Among nursing students specifically, the issue is particularly critical. As future health professionals, they are expected to model healthy behaviors and maintain emotional resilience.(7) In response to this issue, intervention through structured rehabilitation programs has been proposed. These programs aim to raise awareness, foster self-regulation, and provide coping strategies for managing online behaviors. In conclusion, selfie addiction is an emerging behavioral health concern with psychological, social, and academic implications. As digital habits become more deeply entrenched in student life, proactive efforts—including structured rehabilitation programs—are essential in mitigating the risks and promoting responsible smartphone use.

METHODOLOGY

Research Approach and Design

This pilot study utilized a quantitative, quasi-experimental design with pre-test and post-test control groups to evaluate the effectiveness of a selfie rehabilitation program on selfie addiction among nursing students. The independent variable was the selfie rehabilitation program, and the dependent variable was the level of selfie addiction, measured using a validated self-structured tool.

Research Setting

The study was conducted nursing college in Bhopal, Madhya Pradesh, India. These institutions were selected for their accessibility and representation of nursing students aged 17–30 years, providing an appropriate environment for implementing and evaluating the selfie rehabilitation program in a real-world educational context.

Population and Sample

The target population comprised nursing students aged 17–30 years enrolled in selected nursing colleges in Bhopal. Using convenience sampling, 40 participants were recruited and equally divided into an experimental group (n=20) and a control group (n=20). Inclusion criteria included willingness to participate and age 17–30 years, while exclusion criteria encompassed unavailability or unwillingness to participate, ensuring a feasible sample for the pilot study.

Data Collection Tools

Data were collected using three validated tools: Tool A, a demographic questionnaire capturing age, gender, educational year, living area, social media experience, platforms used, selfie-posting frequency, access method, and daily social media hours; Tool B, a selfie-taking pattern questionnaire assessing frequency, reasons, locations, attempts before posting, editing time, and self-esteem impact; and Tool C, a 20-item Selfie Addiction Behavior Rating Scale (1 = Strongly Disagree, 5 = Strongly Agree; range 20–100), categorizing addiction as Borderline (20–33), Acute (34–67), or Chronic (68–100), developed through literature review, expert validation, and pilot testing.

Data Collection Procedure

After obtaining informed consent ensuring confidentiality and voluntary participation, pre-tests (Tools A, B, C) were administered to both groups to establish baseline selfie addiction levels. The selfie rehabilitation program was delivered solely to the experimental group, followed by post-tests (Tools B, C) for both groups immediately after the intervention to measure changes, while the control group completed pre- and post-tests

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without receiving the intervention.

DATA ANALYSIS

Data were analyzed using descriptive statistics to summarize demographic characteristics and selfie-taking patterns. Paired t-tests compared pre- and post-test selfie addiction scores within groups to assess intervention effectiveness. ANOVA and t-tests evaluated associations between pre-test scores and demographic variables, with statistical significance set at $p < 0.05$, using standard statistical software.

Result Table 1: Demographic Characteristics of Participants (N=40)

Variable	Category	Experimental Group (n=20)	Control Group (n=20)
Age (years)	18-22	11 (55.0%)	12 (60.0%)
	23-25	7 (35.0%)	6 (30.0%)
	26-29	2 (10.0%)	2 (10.0%)
	>29	0 (0.0%)	0 (0.0%)
Gender	Male	9 (45.0%)	8 (40.0%)
	Female	11 (55.0%)	12 (60.0%)
Educational Year	1st Year	5 (25.0%)	4 (20.0%)
	2nd Year	6 (30.0%)	7 (35.0%)
	3rd Year	5 (25.0%)	5 (25.0%)
	4th Year	4 (20.0%)	4 (20.0%)
Living Area	Urban	10 (50.0%)	9 (45.0%)
	Rural	6 (30.0%)	7 (35.0%)
	Semi-Urban	4 (20.0%)	4 (20.0%)
Social Media Experience (years)	<1	1 (5.0%)	2 (10.0%)

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	1-2	5 (25.0%)	4 (20.0%)
	3-5	7 (35.0%)	8 (40.0%)
	≥5	7 (35.0%)	6 (30.0%)
Social Media Platforms Used	Facebook	15 (75.0%)	14 (70.0%)
	Instagram	18 (90.0%)	17 (85.0%)
	Snapchat	10 (50.0%)	11 (55.0%)
	Other	4 (20.0%)	3 (15.0%)
Frequency of Posting Selfies	Daily	5 (25.0%)	6 (30.0%)
	Several times a week	8 (40.0%)	7 (35.0%)
	Once a week	4 (20.0%)	4 (20.0%)
	Occasionally	3 (15.0%)	3 (15.0%)
Primary Access Method	Smartphone	18 (90.0%)	19 (95.0%)
	Desktop/Laptop	1 (5.0%)	1 (5.0%)
	Tablet	1 (5.0%)	0 (0.0%)
	Other	0 (0.0%)	0 (0.0%)
Hours per Day on Social Media	<1	2 (10.0%)	3 (15.0%)
	1-2	6 (30.0%)	5 (25.0%)
	3-4	8 (40.0%)	8 (40.0%)
	>4	4 (20.0%)	4 (20.0%)

Table 2: Selfie-Taking Patterns Among Participants (Tool B) (N=40)

Variable	Category	Experimental Group (n=20)	Control Group (n=20)
Frequency of Taking Selfies	Daily	6 (30.0%)	7 (35.0%)
	Several times a week	8 (40.0%)	7 (35.0%)
	Once a week	4 (20.0%)	3 (15.0%)
	Occasionally	2 (10.0%)	3 (15.0%)
Primary Reason for Selfies	Personal Enjoyment	6 (30.0%)	7 (35.0%)
	Social Media Attention	9 (45.0%)	8 (40.0%)
	Compare with Others	3 (15.0%)	2 (10.0%)
	Self-Expression	2 (10.0%)	3 (15.0%)
Selfie Location	At Home	7 (35.0%)	8 (40.0%)
	Outdoors	6 (30.0%)	5 (25.0%)
	Parties/Events	5 (25.0%)	5 (25.0%)
	Tourist Attractions	2 (10.0%)	2 (10.0%)
Attempts Before Posting	First Attempt	3 (15.0%)	2 (10.0%)
	2-3 Attempts	8 (40.0%)	9 (45.0%)
	4-6 Attempts	6 (30.0%)	6 (30.0%)
	>6 Attempts	3 (15.0%)	3 (15.0%)
Time Spent Editing Selfies	None	4 (20.0%)	5 (25.0%)
	<1 Minute	7 (35.0%)	7 (35.0%)
	1-5 Minutes	7 (35.0%)	6 (30.0%)
	5-15 Minutes	2 (10.0%)	2 (10.0%)
Impact on Self-Esteem	Positive	5 (25.0%)	6 (30.0%)
	Negative	5 (25.0%)	4 (20.0%)

No Impact	8 (40.0%)	7 (35.0%)
Not Sure	2 (10.0%)	3 (15.0%)

Table 3: Pre-Test and Post-Test Selfie Addiction Scores (Tool C)

Group	Pre-Test Mean (SD)	Post-Test Mean (SD)	Mean Difference (95% CI)	t-value	p-value
Experimental	46.5 (13.2)	34.1 (10.8)	-12.4 (-17.5, -7.3)	5.03	<0.001
Control	45.9 (12.8)	44.7 (12.5)	-1.2 (-3.4, 1.0)	1.12	0.281

table 3: Selfie addiction scores were calculated using Tool C (20-item Self-Structured Selfie Addiction Behavior Rating Scale, scored 1-5 per item, range 20-100). Paired t-tests compared pre-test and post-test scores within each group. The experimental group showed a significant reduction in selfie addiction scores post-intervention ($p<0.001$), supporting H1 (significant difference between pre- and post-test scores at $p<0.05$). The control group showed no significant change ($p=0.281$).

Table 4: Selfie Addiction Levels Before and After Intervention (Tool C)

Group	Time	Borderline (20-33)	Acute (34-67)	Chronic (68-100)
Experimental (n=20)	Pre-Test	4 (20.0%)	12 (60.0%)	4 (20.0%)
	Post-Test	10 (50.0%)	8 (40.0%)	2 (10.0%)
Control (n=20)	Pre-Test	4 (20.0%)	13 (65.0%)	3 (15.0%)
	Post-Test	5 (25.0%)	12 (60.0%)	3 (15.0%)

Table 4 shows that in experimental group showed a shift towards lower addiction levels post-intervention, with an increase in Borderline cases (20.0% to 50.0%) and a decrease in Chronic cases (20.0% to 10.0%). The control group showed minimal change.

Table 5: Association Between Pre-Test Selfie Addiction Scores (Tool C) and Demographic Variables

Variable	Category	Mean Score (SD)	F/t-value	p-value
Age (years)	18-22	44.8 (12.5)	F=0.78	0.464
	23-25	47.1 (13.0)		
	26-29	45.3 (12.8)		
Gender	Male	47.5 (12.9)	t=1.15	0.258
	Female	44.6 (12.7)		
Educational Year	1st Year	45.7 (12.4)	F=0.55	0.652
	2nd Year	44.9 (12.0)		
	3rd Year	46.8 (13.5)		
	4th Year	45.1 (12.8)		
Living Area	Urban	44.2 (12.3)	F=1.03	0.367
	Rural	47.6 (13.1)		
	Semi-Urban	45.5 (12.6)		
Social Media Experience (years)	<1	43.0 (11.0)	F=2.10	0.115
	1-2	44.2 (12.5)		
	3-5	46.3 (13.0)		
	≥5	47.8 (12.7)		
Hours per Day on Social Media	<1	42.8 (11.5)	F=2.45	0.077
	1-2	44.0 (12.3)		
	3-4	46.9 (13.2)		
	>4	48.3 (12.9)		

DISCUSSION

This pilot study evaluated the impact of a selfie rehabilitation program on selfie addiction among nursing students in Bhopal, Madhya Pradesh, using a quasi-experimental design with 40 participants (20 experimental, 20 control). Present study show that a significant reduction in selfie addiction scores in the experimental group (from 46.5 ± 13.2 to 34.1 ± 10.8, p<0.001), while the control group showed no significant change (45.9 ± 12.8 to 44.7 ± 12.5, p=0.281) with the experimental group showing an increase in Borderline cases (20.0% to 50.0%) and a decrease in Chronic cases (20.0% to 10.0%), contrasting with minimal changes in the control group these findings indicating that the selfie rehabilitation program effectively reduces selfie addiction among nursing students. This aligns with Kavitha (2020), who found that a structured teaching program significantly increased awareness and reduced selfie addiction behaviors among college students in India (p<0.05).(8) Similarly, Behera et al. (2020) reported that educational interventions targeting dangerous selfie behaviors among medical and nursing students led to reduced risky selfie-taking, suggesting that structured programs can modify selfie-related behaviors. (9)

Comparatively, kumar et al. (2021) observed that interventions addressing self-obsession and attention-seeking behaviors reduced selfie addiction among university students, supporting the efficacy of our program, which targeted similar psychological drivers(10). Kaur et al. (2021) found that awareness programs decreased acute selfie addiction among nursing students, with 56.5% initially classified as acute, similar to our pre-test findings (60.0% Acute in the experimental group).(11) However, our study's significant post-intervention shift to Borderline levels (50.0%) suggests a stronger effect, possibly due to the comprehensive nature of our rehabilitation program, which included educational materials, self-assessment, and aftercare planning. In contrast, some studies report limited intervention success. Nagalingam et al. (2019) found that brief awareness sessions had minimal impact on chronic selfie addiction among adolescents, possibly due to shorter intervention duration compared to our multi-session program. (6) The significant reduction in our experimental group aligns with Lin et al. (2022), who found that structured interventions targeting smartphone addiction reduced usage and improved self-efficacy, a mechanism likely at play in our selfie-focused program.(11–13)

Present study show that 32.5% of participants took selfies daily, 42.5% took selfies primarily for social media attention, and 42.5% made 2-3 attempts before posting, with no significant baseline differences between groups. These patterns are consistent with Som et al. (2017), who reported that 47% of medical students took 4-6 selfies daily, with a focus on social media sharing. Ravi Varma et al. (2020) found that 45% of medical students took selfies for attention-seeking, mirroring our finding that 42.5% prioritized social media attention. The high prevalence of Instagram use (87.5%) in our study aligns with Gawade et al. (2019), who noted that social media platforms like Instagram drive selfie-taking among adolescents.(12,14)

Our finding that 22.5% reported negative self-esteem impacts from selfie-taking is consistent with Sharma et

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al. (2019), who identified a positive correlation between selfie-taking and sensitivity, suggesting psychological vulnerabilities.(15) Krishna Kumari et al. (2019) reported that 60% of young adults took selfies for social validation, higher than our 42.5%, possibly due to their broader age range. (16) The 37.5% taking selfies at home aligns with Sameeha et al. (2017), who found that private settings were common for selfie-taking among students, reflecting accessibility and comfort.(17)

There is no significant associations between pre-test selfie addiction scores and demographic variables (age, gender, educational year, living area, social media experience, hours on social media; p>0.05). This contrasts with some literature but is consistent with others, likely due to the pilot study's small sample size (N=40). For instance, Nagalingam et al. (2019) found a significant association between selfie addiction and gender (higher in males, p<0.05), unlike our non-significant gender finding (p=0.258).Behera et al. (2020) reported that male students were more likely to engage in dangerous selfies (p<0.05), while our study found no gender-based differences in addiction scores.(18) Sameeha et al. (2017) also found no significant gender association with mobile phone addiction (p>0.05), supporting our results.(19)

Age was not significantly associated with selfie addiction in our study (p=0.464), contrasting with Som et al. (2017), who found younger students (15-16 years) had higher selfie-taking frequency (p=0.003).(20) This discrepancy may reflect our narrower age range (18-29 years). Ammati et al. (2017) found no significant association between smartphone addiction and educational year (p>0.05), aligning with our finding (p=0.652). Chas et al. (2017) reported a significant association between daily smartphone use duration and addiction (p<0.05), whereas our study's non-significant finding for hours on social media (p=0.077) may reflect the small sample size limiting statistical power.(21,22)

This pilot study demonstrates that the selfie rehabilitation program significantly reduces selfie addiction among nursing students. The selfie-taking patterns reflect common emphasizing the role of social media validation. Present study findings support the need for larger-scale studies to validate the program's efficacy and explore demographic influences, contributing to healthier smartphone use among nursing students.

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