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Evaluating Mental Health Implications of Social Media Engagement in the Urban geriatric Population: A Descriptive Analysis

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Abstract

Background: Aging is accompanied by unique challenges, including heightened risks of social isolation and mental health issues. The rapid urbanization and proliferation of social media among older adults present both opportunities and challenges for mental well-being. While social media engagement fosters connections, it may also exacerbate loneliness and other mental health concerns, especially in urban geriatric populations.

Objectives: The main objectives of the study were to assess the levels of social network addiction, mental health consequences (loneliness), and their interrelationship among the urban geriatric population. Additionally, it explored the association of these factors with selected socio-demographic variables.

Materials and Methods: A quantitative, non-experimental descriptive study was conducted in Choolai, Chennai, involving 60 elderly participants aged 60 and above, selected through convenience sampling. Data were collected using the Social Network Addiction Scale (SNAS) and the UCLA Loneliness Scale. Statistical analyses included descriptive and inferential statistics to assess correlations and associations.

Results: Moderate social network addiction was observed in 33.3% of participants, with 25% exhibiting high addiction levels. Loneliness was prevalent, with 41.7% reporting moderate levels and 16.7% experiencing high levels. A strong positive correlation ($r = 0.98$) was observed between social network addiction and loneliness. There were significant associations between internet access ($p = 0.0004$) and daily mobile phone usage ($p = 0.0002$).

Conclusion: The present study highlights the strong link between social network addiction and loneliness among urban elderly individuals. Targeted interventions promoting healthy digital engagement and enhan-

ced social support are essential to improving mental well-being in this demographic.

Keywords: Social Media, Loneliness, Urban Geriatric Population, Social Network Addiction, Mental Health Consequences

Introduction:

Aging is a universal phenomenon that presents unique challenges and opportunities for societies worldwide. As the global population ages, the proportion of individuals aged 60 years and older continues to rise significantly. According to the World Health Organization (WHO), by 2050, the number of people aged 60 and older will double to reach 2.1 billion, representing approximately 22% of the global population [1]. Urbanisation further compounds this demographic shift, with many of the elderly residing in metropolitan areas. Urban geriatric populations, while benefitting from access to advanced healthcare and social infrastructure, are often more susceptible to social isolation, depression, and anxiety, particularly as their support systems shrink due to the migration of family members and evolving social dynamics [2].

The advent of social media has revolutionised communication and engagement, influencing various aspects of daily life. For older adults, social media platforms such as Facebook, WhatsApp, and Instagram have become vital tools for connecting with family, friends, and communities [3]. Studies revealed that over 40% of individuals aged 65 and above actively engage with social media, a number projected to rise as digital literacy improves among older generations. However, the impact of social media on the mental health of the urban elderly remains a double-edged sword [4].

Social media engagement can mitigate loneliness and foster a sense of inclusion [5]. Studies indicate that regular use of social media reduces the risk of depression by up to 32% among older adults by facilitating social connections and promoting cognitive engagement [6]. Conversely, excessive or inappropriate social media use has been linked to detrimental mental health outcomes, such as heightened anxiety, stress, and a distorted perception of reality [7]. The prevalence of cyberbullying, exposure to misleading information, and feelings of inadequacy from unrealistic portrayals on social media further exacerbate these challenges. Approximately 18% of elderly social media users report experiencing negative emotional outcomes directly linked to their online interactions [8].

The increasing prevalence of social media use among the urban geriatric population presents both opportunities and challenges for mental health. While social media can reduce loneliness and enhance social connections, it also poses risks such as anxiety, misinformation, and cyberbullying. Despite its growing influence, there is limited research explicitly addressing its mental health implications for older adults in urban settings. Understanding these dynamics is crucial for designing targeted interventions to maximise benefits and mitigate risks. This study aims to fill this gap by providing a comprehensive analysis, enabling policymakers, caregivers, and healthcare professionals to promote mental well-being in this vulnerable demographic.

Materials and Methods:

Research Design

This study adopted a quantitative research approach to explore the mental health implications of social media engagement among the urban geriatric population. A non-experimental descriptive research design was utilized to provide a comprehensive understanding of the phenomenon without manipulating

variables. The research was conducted in Choolai, Chennai, a densely populated urban area with a diverse elderly demographic, making it suitable for examining the interplay between social media use and mental health. The study spanned four weeks, providing adequate time for participant recruitment, data collection, and preliminary analysis.

The study population included urban geriatric individuals aged 60 and above residing in Choolai. The target population comprised all elderly residents of this area, while the accessible population included those who met the inclusion criteria and were available during the study period. A non-probability convenience sampling technique was employed to select the sample.

Sample size calculation:

A total of 60 elderly individuals participated, as determined by a sample size calculation using a formula based on a previous study by K. Bincy et al. (2022) [9]. This calculation considered a 24% social network usage rate, a 95% confidence level, and 45% relative precision.

$$N = \frac{Z^2 x\, P(1-P)}{E^2}$$

Where Z=1.96 (standard normal deviate for a 95% confidence level), P=24% (proportion of social network users), E=45% (relative precision)

Selection Criteria:

Participants were recruited based on specific inclusion criteria, including being aged 60 or above, possessing sound cognitive and hearing abilities, residing in the area for at least one year, and being capable of effective communication. Exclusion criteria included severe psychiatric disorders, cognitive impairments, being bedridden, and unwillingness to participate.

Data Collection Tools:

Data were collected using a Sociodemographic questionnaire, Social Network Addiction Scale (SNAS) and UCLA Loneliness Scale. The tool's validity was ensured through expert review by professionals in nursing and psychiatry, who assessed and suggested modifications to improve content alignment. Reliability was determined using internal consistency and test-retest methods, yielding a correlation coefficient of 0.7, indicating a high level of reliability. Ethical approval was obtained from the Institutional Ethics Committee (N0. IEC-MMC/Approval/52042024) and informed consent was secured from participants before data collection. Structured interviews lasting 10-15 minutes were conducted to collect the required data.

Data analysis:

The collected data were analysed using descriptive and inferential statistics. Descriptive analysis involved frequency, percentages, mean, and standard deviation, while inferential tests examined associations between socio-demographic factors, social network addiction, and mental health outcomes. This systematic approach ensured the reliability and validity of findings and contributed to achieving the study's objectives effectively.

Results:

Demographic Characteristics of Urban Geriatric Population

The mean age of the geriatric population was 66.96 years ± 4.22 years. Males constituted the majority

(53.3%) of the sample. Regarding socioeconomic status, 50% of respondents reported monthly incomes ranging from ₹5,000–₹10,000. Most participants (66.7%) lived with family, 75% had internet access, and 91.7% owned mobile phones. Additionally, 50% used mobile phones for 1–3 hours daily.

Social Network Addiction Score

Moderate addiction was observed in 33.3% of respondents, making it the most common category, followed by low addiction (25%), high addiction (25%), and very high addiction (16.7%). These findings highlight that social network addiction levels vary significantly within the geriatric population, with one-fourth of respondents exhibiting higher levels of addiction (Table 1).

Table 1: Level of social network addiction

Addiction Category	Number of Respondents	Percentage
Low Addiction	15	25%
Moderate Addiction	20	33.30%
High Addiction	15	25%
Very High Addiction	10	16.70%

Mental Health Consequences (UCLA Loneliness Score)

The majority (41.7%) fell into the moderate loneliness category, followed by 33.3% with low loneliness, 16.7% with high loneliness, and 8.3% experiencing very high loneliness. These results indicate that loneliness is prevalent among urban elderly individuals, with a significant proportion reporting moderate to high levels of loneliness (Table 2).

Table 2: Level of mental heath consequences (UCLA loneliness)

Loneliness Category	Number of Respondents	Percentage
Low Loneliness	20	33.30%
Moderate Loneliness	25	41.70%
High Loneliness	10	16.70%
Very High Loneliness	5	8.30%

Correlation Between Social Network Addiction and Loneliness

A strong positive correlation was observed between social network addiction and loneliness, as indicated by the Pearson correlation coefficient ($r = 0.98$). This suggests that higher levels of social network addiction are strongly associated with greater loneliness among the urban geriatric population. The mean social network addiction score was 31.17 (SD = 5.91), while the mean UCLA Loneliness score was 46.58 (SD = 6.97). These findings underscore the potential impact of excessive social network use on mental health outcomes in this population.

Association Between Social Network Addiction and Socio-Demographic Variables

The association between social network addiction and selected demographic variables was assessed using chi-square tests. There were significant associations for internet access ($\chi^2 = 12.56$, $p = 0.0004$) and daily mobile phone usage ($\chi^2 = 16.88$, $p = 0.0002$). Participants with internet access and those who used mobile phones for extended periods (more than 3 hours daily) were more likely to exhibit higher levels of social

network addiction. Other demographic variables, including age, gender, socioeconomic status, living arrangements, and mobile phone ownership, did not show statistically significant associations with social network addiction.

Discussion: The present study provides critical insights into social network addiction, loneliness, and their interrelationships among the urban geriatric population, as well as the associations with socio-demographic variables.

Social Network Addiction in the Urban Geriatric Population

The present study revealed varying levels of social network addiction among older adults, with 33.3% of respondents falling into the moderate addiction category. This indicates that social media use has become a prominent activity even among the elderly. The findings align with the work of Ciucurel et al. (2024), which showed that living arrangements, age, and education significantly influence social networks. It also emphasise the role of sociodemographic factors in shaping social engagement and the prevalence of smaller social networks among older adults, highlighting the influence of external conditions on digital behaviors [10].

Loneliness and Mental Health Consequences

The current findings demonstrate that loneliness is prevalent among urban geriatrics, with 41.7% reporting moderate levels and 16.7% experiencing high loneliness. These results are supported by the work of Elisabeth Grey et al. (2024), who highlighted the critical need for technology-based interventions to combat loneliness. It also stress the importance of aligning interventions with the technological capabilities and values of the elderly, emphasizing personalized approaches to addressing loneliness [11].

Correlation Between Social Network Addiction and Loneliness

The present study observed a very strong positive correlation between social network addiction and loneliness ($r = 0.98$). This relationship underscores the complex interplay between excessive social media use and mental health consequences. Similar findings by Yu et al. (2024) demonstrated that internet use improves cognitive functioning through enhanced social support networks [12]. They also identified the negative effects of gaming among rural seniors, emphasizing the nuanced impact of digital engagement on mental health.

Association With Socio-Demographic Variables

The findings show significant associations between internet access, daily mobile phone usage, and levels of social network addiction and loneliness. This echoes the results of Czaja et al. (2021), who demonstrated that limited social support contributes to isolation and psychological issues [13]. Similarly, Egeljić-Mihailović et al. (2022) emphasized the role of social participation in reducing depression and anxiety among elderly individuals [14].

Conclusion

Aging brings unique challenges, especially for urban geriatric populations, where social isolation and mental health issues like loneliness are prevalent. This study highlights significant levels of social network addiction and its strong correlation with loneliness among the elderly. Key demographic factors, such as

internet access and mobile phone usage, significantly influence these outcomes. Targeted interventions that foster healthy digital engagement and enhance social connections are essential to improving the mental well-being of this vulnerable demographic.

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