



Pattern of Social Media Usage among Bangladeshi Cancer Patients: A Cross-Sectional Study

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Authors' contributions

This work was carried out in collaboration among all authors. Author SA conceptualized the research work, methodology, did formal analysis, wrote original draft, reviewed and edited the manuscript, supervised the study, authors DH and AU did the methodology, data collection. Author SK did the data collection. All authors read and approved the final manuscript.

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ABSTRACT

Background: Social media platforms have become indispensable tools for communication and information exchange, playing an increasingly significant role in the healthcare landscape. Within the realm of cancer care, these platforms provide valuable avenues for accessing information, seeking emotional support, and connecting with peers facing similar challenges. However, despite the growing recognition of social media's potential benefits, its utilization and impact among cancer patients in specific contexts, such as Bangladesh, remain largely unexplored. This cross-sectional study examines social media usage among Bangladeshi cancer patients, investigating engagement frequency, encountered challenges, and sought information types.

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Methods: Participants were recruited from private clinical chambers, data collection utilized face-to-face structured questionnaires covering social media usage, support challenges, sought cancer-related information, and trust levels in encountered information. Analysis comprised descriptive and inferential statistics, aiming to inform tailored interventions and support services for this population.

Results: The study included 124 Bangladeshi cancer patients, with nearly equal gender distribution, the largest proportion was aged 18-35 years, comprising 42% of the participants. Participants had various cancer types, including stomach, breast, lung, and others. Regarding smoking, 42.3% smoked, mostly daily (71.7%) at 10 cigarettes/day (47.2%). Social media usage was common, with 41.1% using it 1-2 hours/day. Facebook, Instagram, and YouTube were popular platforms. Cancer-related social media information was accessed variably, with 16.9% daily, trust levels varied, with 30.6% finding it very trustworthy, and emotional health validation through social media was deemed very important by 51.6% of participants. Challenges included emotional burden (73.4%) and privacy concerns (69.7%). There was no significant link between gender and social media frequency; age and usage duration; smoking and info encounter frequency; but cancer type influenced emotional validation importance ($p = 0.019$) and higher usage related to privacy concerns ($p = 0.011$).

Conclusion: These findings highlight the significance of social media platforms in supporting Bangladeshi cancer patients while highlighting the importance of addressing challenges such as information trustworthiness and privacy concerns. Future research endeavors should focus on exploring context-specific interventions to enhance the effectiveness of social media-based support networks in this population.

Keywords: Cancer; social media; Bangladesh.

1. INTRODUCTION

Social media platforms have become pivotal channels for communication, information exchange, and social interaction [1]. Their pervasive influence has reshaped how individuals worldwide access and engage with information, extending to various facets of life, including healthcare [2]. Particularly within the healthcare landscape, social media platforms play a pivotal role in connecting patients, caregivers, healthcare providers, and advocacy groups, fostering supportive networks, and disseminating health-related information [3].

The utilization of social media platforms by cancer patients has garnered significant attention due to its potential to address the multifaceted challenges associated with cancer diagnosis, treatment, and survivorship [4]. Globally, individuals grappling with cancer, alongside caregivers and survivors, have turned to social media platforms as invaluable resources for accessing information, seeking emotional support, sharing personal experiences, and connecting with others navigating similar challenges [5]. Through real-time conversations, participation in virtual support communities, and engagement in advocacy endeavors, social media empowers individuals, fostering resilience throughout their cancer journey [6,7,8].

However, despite the growing recognition of social media's significance in supporting cancer patients worldwide, there remains a notable gap in understanding its utilization and impact within specific contexts, such as Bangladesh. This study investigated social media use among Bangladeshi cancer patients, focusing on patterns of usage, challenges encountered in seeking peer support, and types of cancer-related information sought on social media platforms. Understanding these dynamics is crucial for developing targeted interventions and support mechanisms that harness the potential of social media to improve the well-being and outcomes of cancer patients in Bangladesh and similar settings.

2. METHODOLOGY

This is a cross-sectional study that used a convenience sampling technique to recruit participants meeting specific inclusion criteria: Bangladeshi individuals aged 18 years or above, diagnosed with cancer, and actively engaged in social media. Recruitment was conducted in the private clinical chambers of an oncologist (SK) in March 2024. Medical professionals assisted in identifying and approaching potential participants during their consultations. The data collection process involved a structured questionnaire administered by trained research assistants. Each question was explained to the participants,

and responses were recorded using pen and paper. This face-to-face method ensured that participants fully understood the questions and provided accurate responses. Prior to involvement, participants were provided with detailed information about the study and signed the informed consent. Participants were informed of their right to withdraw from the study at any time without any consequences.

The study measured several key aspects related to the social media use of Bangladeshi cancer patients. Social media usage was assessed by examining the frequency and duration of social media activity, with participants reporting how often they used various platforms such as Facebook, Instagram, Twitter, YouTube, LinkedIn, and TikTok, and specifying their average daily usage time. Challenges in using social media for peer support were evaluated, focusing on issues like the reliability of information encountered, privacy concerns, and difficulties in finding relevant support groups. Participants also described any emotional burdens experienced during social media interactions, such as encountering disheartening or harassing content. Additionally, the study explored the types of cancer-related information sought on social media, including treatment options, coping mechanisms, support groups, prevention tips, and success stories. Participants reported how often they came across cancer-related information, their level of trust in this information, and whether it influenced their decisions regarding cancer treatment or management. Lastly, the study examined participants' concerns about privacy and cancer-related stigma when using social media for peer support.

Once the data was collected, it was inputted into Google Forms by a trained research assistant to facilitate digital data management and analysis. This method ensured accuracy and efficiency in data handling while maintaining confidentiality, as no personally identifiable information was recorded. Data analysis involved descriptive statistics to summarize demographic characteristics and social media usage patterns. Inferential statistics, such as chi-square tests was used to explore associations between categorical variables. Statistical software SPSS was utilized for data analysis.

3. RESULTS

The study included 124 Bangladeshi cancer patients, with a near-equal distribution of males

(50.8%) and females (49.2%). The age distribution was as follows: 21% were aged 18-25 years, 21% were aged 26-35 years, 18.5% were aged 36-45 years, 20.2% were aged 46-55 years, and 19.4% were aged 56 and above. Participants reported suffering from various types of cancer, including carcinoma of the stomach, testes, breast, ovary, gall bladder, thyroid gland, colon, esophagus, hepatocellular carcinoma, rectum, squamous cell carcinoma, lung, cervix, and pharynx.

Regarding smoking history, 42.3% of participants had smoked, with durations ranging from less than six months to more than ten years. Among current smokers, 71.7% reported smoking daily, with the majority smoking 10 cigarettes per day (47.2%).

Social media usage was prevalent among the participants, with 41.1% using social media for 1-2 hours daily, 20.2% for 2-4 hours, 19.4% for more than 4 hours, and 19.4% for less than 1 hour. The most commonly used platforms were Facebook, Instagram, and YouTube (Fig. 1).

Cancer-related information on social media was encountered rarely (32.3%), monthly (25%), weekly (17.7%), daily (16.9%), and never (8.1%). Trust in this information was moderate, with 30.6% finding it very trustworthy, 29.8% completely trustworthy, 21.8% not at all trustworthy, 9.7% moderately trustworthy, and 8.1% slightly trustworthy.

A significant majority (84.7%) did not value socializing with other young adults with cancer through social media, and 82.3% did not find it beneficial to make connections outside their personal networks for cancer-related support. However, 51.6% considered validating their emotional and mental health experiences through social media connections as very important, 27% as somewhat important, and 21.3% as not important at all.

Challenges in using social media for peer support were significant, with 73.4% experiencing an emotional burden, citing fearsome or uncomfortable content. Privacy concerns related to navigating cancer-related stigma were reported by 69.7% of participants. The types of cancer-related information sought included treatment options, success stories, coping mechanisms, support groups, and prevention tips (Fig. 2).

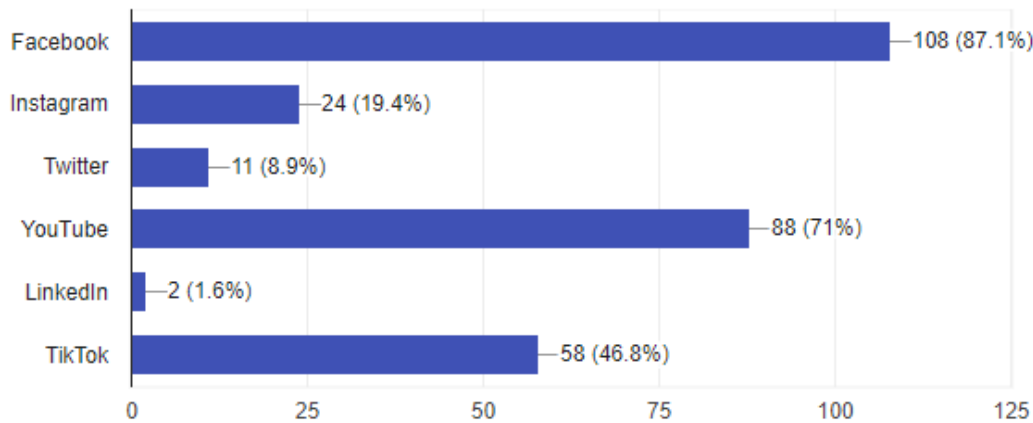


Fig. 1. Types of social media platforms used (N =124)

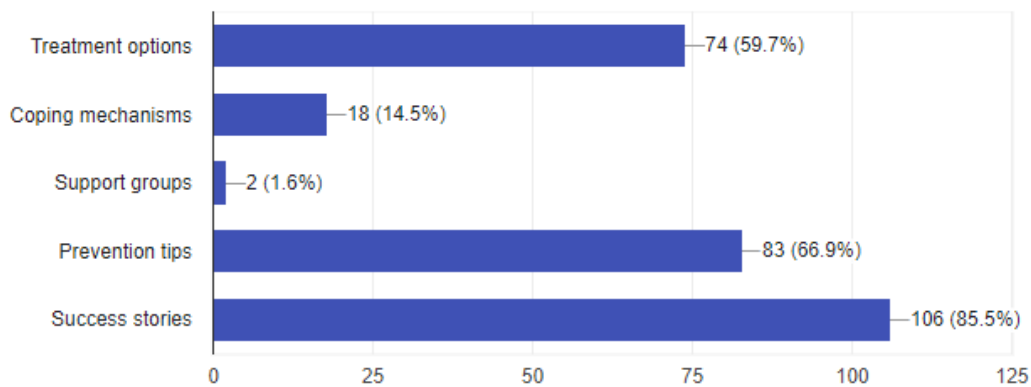


Fig. 2. Type of cancer-related information seek on social media (N = 124)

Table 1. Associations between demographic variables, social media usage patterns, and cancer-related information

Variable 1	Variable 2	χ^2 (df, N)	p-value
Gender	Frequency of social media use	$\chi^2(3, N=124) = 2.47$	0.481
Age groups	Duration of social media usage	$\chi^2(12, N=124) = 13.59$	0.327
Smoking status	Frequency of encountering cancer-related information on social media	$\chi^2(4, N=123) = 3.12$	0.539
Type of cancer	Importance placed on validating emotional and mental health experiences through social media	$\chi^2(8, N=122) = 18.32$	0.019*
Privacy concerns	Frequency of social media use	$\chi^2(3, N=124) = 11.21$	0.011*

Footnote: χ^2 : chi-square statistic; df: degrees of freedom for the test; N: sample size; *significant

Chi-square tests were conducted to explore associations between demographic variables and social media usage patterns (Table 1). There was no significant association between gender and the frequency of social media use [$\chi^2(3, N=124) = 2.47, p = 0.481$]. Similarly, no significant association was found between age

groups and the duration of social media usage [$\chi^2(12, N=124) = 13.59, p = 0.327$].

An analysis of the relationship between smoking status and the frequency of encountering cancer-related information on social media revealed no significant association [$\chi^2(4, N=123) = 3.12, p =$

0.539]. However, there was a significant association between the type of cancer and the importance placed on validating emotional and mental health experiences through social media [$\chi^2(8, N=122) = 18.32, p = 0.019$], indicating that patients with certain types of cancer were more likely to value social media for emotional validation (Table 1).

Additionally, a significant association was found between privacy concerns and the frequency of social media use [$\chi^2(3, N=124) = 11.21, p = 0.011$], suggesting that participants with higher social media usage were more likely to report privacy concerns related to cancer-related stigma (Table 1).

4. DISCUSSION

Summary of findings: The study sheds light on the social media usage patterns, challenges, and preferences of Bangladeshi cancer patients. Key findings include a prevalent utilization of social media among participants, with Facebook, Instagram, and YouTube being the most commonly used platforms. Despite the widespread usage, participants encountered cancer-related information infrequently on social media, and trust in this information varied. Challenges in utilizing social media for peer support were significant, with a majority experiencing emotional burdens and privacy concerns related to cancer-related stigma. Types of cancer-related information sought encompassed treatment options, success stories, coping mechanisms, support groups, and prevention tips.

Prior studies: This study's findings align with overarching trends observed among cancer patients regarding social media usage and information-seeking behaviors [9,10]. However, notable disparities exist, particularly in the frequency of encountering cancer-related information and the degree of trust placed in such information. These discrepancies may stem from cultural variations, differences in social media infrastructure, and variances in healthcare accessibility across different regions [11,12]. Previous studies have underscored the pivotal role of social media in providing cancer patients with access to informational resources, emotional support, and opportunities for peer connection [13]. Similarly, our findings corroborate the widespread use of social media platforms among Bangladeshi cancer patients, emphasizing the significance of these platforms as conduits for communication and support.

However, while some studies have reported a high frequency of encountering cancer-related information on social media platforms, our study reveals a lower incidence of such encounters among Bangladeshi participants. Moreover, trust levels in the information encountered vary, with a notable proportion expressing skepticism or moderate trust, diverging from findings in other contexts where trust tends to be higher. These disparities underscore the need for context-specific research to elucidate the nuanced dynamics of social media usage among diverse populations of cancer patients. Cultural norms, societal perceptions of cancer, and variations in healthcare infrastructure may influence individuals' engagement with social media and their perceptions of the information encountered. Despite these differences, overarching themes such as the importance of social media in providing emotional support and access to informational resources remain consistent across studies. By synthesizing findings from various contexts, researchers can gain a more comprehensive understanding of the multifaceted role of social media in supporting cancer patients worldwide.

Recent studies have provided deeper insights into the specific ways social media is utilized by cancer patients and their relatives. Braun et al. highlighted the diverse information needs and the critical role of communication through social media among cancer patients and their families [14]. Additionally, Daniels and Willard examined the social experiences of adolescents and young adults with cancer, revealing how social media interactions post-diagnosis can significantly shape their social experiences and support systems [15]. These studies reinforce the importance of understanding the varied social media behaviors and preferences among different demographic groups within the cancer patient community. By integrating these findings with our research, we can better appreciate the complex dynamics at play and enhance the design of social media interventions tailored to the unique needs of cancer patients.

Strengths and limitations of the study: One of the strengths of this study lies in its comprehensive exploration of social media usage among Bangladeshi cancer patients, filling a crucial gap in the existing literature. The utilization of a structured questionnaire, administered face-to-face by trained research assistants, ensured data accuracy and minimized response bias. However, several limitations

warrant acknowledgment. The study's reliance on convenience sampling may introduce selection bias, limiting the generalizability of the findings to the broader population of Bangladeshi cancer patients. Moreover, the cross-sectional design precludes the establishment of causal relationships between variables.

Implications of the study results: The findings from this study have several important implications for understanding the social media behaviors and support needs of Bangladeshi cancer patients. The diverse age range and equal gender distribution among participants indicate that social media interventions should be designed to cater to a broad demographic, including age-specific content for younger patients. The infrequent encounter with cancer-related information and mixed levels of trust suggest a gap in the availability of reliable, evidence-based content, highlighting the need for credible sources to enhance trust. The significant importance placed on emotional and mental health validation through social media underscores the critical role these platforms play in emotional support. However, the lack of value placed on peer socialization indicates that strategies should focus more on emotional validation. High levels of reported emotional burden and privacy concerns suggest that social media platforms need to implement better content filtering and privacy control features to mitigate negative impacts and address stigma-related fears. The significant association between cancer type and the importance of emotional validation indicates that tailored content should be developed to meet specific support needs based on cancer type. Additionally, the correlation between privacy concerns and social media usage patterns implies that increased engagement leads to heightened privacy concerns, necessitating enhanced privacy protection features and user education. Addressing these implications can help healthcare providers, policymakers, and social media developers better support the informational and emotional needs of cancer patients in Bangladesh and similar contexts, emphasizing the importance of culturally and contextually tailored interventions to optimize the benefits of social media for cancer patients.

5. CONCLUSION

This study provides valuable insights into the social media behaviors, challenges, and support preferences of Bangladeshi cancer patients,

reflecting a diverse participant demographic and a range of cancer types. The findings underscore the widespread use of social media platforms like Facebook, Instagram, and YouTube among participants, despite infrequent encounters with cancer-related information and varying levels of trust in such content. Significant challenges in using social media for peer support were noted, including emotional burdens and privacy concerns related to cancer-related stigma.

The study contributes to existing literature by highlighting cultural variations, societal perceptions of cancer, and healthcare infrastructure disparities that influence how Bangladeshi cancer patients engage with social media. While affirming the role of social media in providing emotional validation and access to informational resources, the study also identifies areas for improvement, such as enhancing content trustworthiness and privacy protections.

Addressing these research gaps and challenges presents an opportunity to develop tailored social media interventions that better meet the emotional and informational needs of diverse cancer patient populations. By integrating these findings into practice, healthcare providers, policymakers, and social media developers can enhance support mechanisms and optimize the benefits of social media for cancer patients in Bangladesh and similar contexts, ultimately improving patient outcomes and well-being.

6. RECOMMENDATIONS FOR FUTURE RESEARCH

Future research endeavors should aim to address the limitations of this study by employing more representative sampling techniques and longitudinal study designs. This approach would allow for a more comprehensive understanding of how social media behaviors and needs evolve over time among diverse groups of cancer patients. Additionally, qualitative research methods, such as interviews or focus groups, could provide deeper insights into the lived experiences of Bangladeshi cancer patients regarding social media usage, offering rich contextual understanding and nuances that quantitative data may not capture alone. Furthermore, exploring the efficacy of interventions aimed at mitigating the challenges associated with social media peer support among cancer patients represents a promising avenue for future investigation. Studies could evaluate the impact of different types of support

interventions, ranging from moderated online forums to peer-led support groups, on emotional well-being and information exchange within the cancer patient community. By integrating these approaches, researchers can develop more tailored and effective strategies to optimize the benefits of social media in supporting cancer patients throughout their treatment and recovery journey.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of manuscripts.

DATA AVAILABILITY STATEMENT

Available upon request from the corresponding author via email.

CONSENT

As per international standards or university standards, Participants' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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