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Usage and Attitudes toward Social Media amongst Residents of Mayo Clinic Arizona Internal Medicine Residency Program - A Pilot Project

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Abstract: ***Objective: The widespread embrace of social media has transformed communication among individuals, groups, and organizations. This research aimed to evaluate the awareness, involvement, and proficiency of internal medicine physicians in utilizing social media in the digital realm of healthcare delivery. Methods: We conducted a cross - sectional survey of internal medicine residents at Mayo Clinic Arizona during a 6 - week period from 10/11/23 to 11/30/23. Results: Most responders were between the ages of 26 - 30 (60%), with 72% characterized as Millennials (birth year 1981 - 1996). Among the responders, entertainment was cited by the majority (80%) as the most favorable use of social media, spending an average of 1.75 hours per day on these networks, with Instagram (86%) and Facebook (64%) utilized the most. Residents who used social media above the average 1.75 hours per day were more likely use social media for socializing, and had a less favorable impression of social media for job seeking and emotional health. While no one was favorable about using social media for sharing confidential patient information, the first - year residents were less unfavorable, or more neutral, about the matter. Conclusion: The awareness and acknowledgment of the diverse ways in which social media influences healthcare are on the rise. Rising professionals in healthcare, including medical residents, should enhance their comprehension of these intricate dynamics to effectively support patients in their medical decision - making process, and their burgeoning medical career.***

Keywords: Social media, attitudes, privileged health information, academic and social networking sites,

1. Introduction

Since the advent of mobile technology, social media use has increased exponentially. The Oxford Dictionary defines social media as “websites and applications that enable users to create and share content or to participate in social networking”.[1] Social media provides users the opportunity to generate, share, comment on and receive multimedia content distributed amongst multiple users.[2] Social media use within healthcare by patients, clinicians and healthcare organization has been increasing. Social media is now used regularly by the average citizen including medical professionals. This use has been amplified by the COVID pandemic where social media was the only means of communication for many. It’s common for patients to use social media and internet to get more information about their medical condition, their clinicians and the facility where they get care. Use of smartphones has impacted academic learning of trainees by improving their learning skills and academic participation and performance.[3]

Clinicians typically use social media for personal as well as professional use. Social media platforms used for personal and social connectivity include Facebook, Twitter, Instagram, TikTok amongst others, while those for professional use include LinkedIn, Research gate, Doximity etc.4 Trainees have access to wide range of social media including Facebook, Instagram, Twitter, LinkedIn, Doximity etc for personal and professional use. Individuals, residency programs and organizations routinely leverage social media to foster interactions amongst individuals via strategies like pushing out journal articles, blogs, virtual journal clubs etc.[5]

Study by Ramage et al demonstrated that nursing students use social media to communicate with peers and access course - related information with social media providing a collaborative and promoting environment.6 Similar use of social media platforms for personal and professional use was noticed amongst neurosurgery trainees.[7]

Social media can be leveraged for resident recruitment, GME, professional development, and academic scholarship.8 Social media platforms like Twitter, podcasts and blogs have been used to engage learners and augment education while YouTube and Wikis are used to impart technical skills. Some graduate medical programs also leverage social media to market their programs and reach out to prospective trainees and to monitor the professional behavior of trainees and faculty on social media.9 Larger training program can

leverage social media like Twitter for educational purposes, Facebook for promotions and Instagram for social type post.[10]

Professional organizations like Mayo Clinic, United States Centers for Disease Control (CDC) and internationally, the World Health Organization (WHO) have also developed successful social media programs. Social media has inherent benefits including low cost, communication in various formats like texts, photo, video, multimedia, use for patient and professional education, networking, patient care.1[1] Clinicians use social media to research medical topics and professional networking but are concerned about ability of social media to protect their patient's privacy.[12] There are studies reporting positive effects of social media including education, professional networking while risks included unprofessional behavior, blurring of personal and professional boundaries, time spent away from patient care.[1, 2]

The current usage, attitudes including benefits and potential risks of social media including social media disorder amongst internal medicine trainees is large unknown. While the potential advantages of social media in the field of medicine are growing, there is uncertainty around the attitudes and motivating factors regarding its benefits and opportunities. This study aimed to ascertain the knowledge, skills and attitudes of residents regarding social media and its intersection within the digital healthcare landscape.

2. Methods

We conducted a cross - sectional survey of internal medicine residents at the Mayo Clinic Arizona for a 6 - week period from 10/11/23 to 11/30/23.

Survey Development

The survey focused on knowledge, skills and attitudes around social media use by internal medicine residents. It consisted of 12 questions created by the project team and developed via several rounds of peer review and internal validation among co - investigators using the Knowledge - Skills - Ability framework. Survey length was approximately 10 min. The majority of the questions had Likert scale responses ("very favorable, " "favorable, " "neither, " "unfavorable, " and "very unfavorable"). The overarching components of the survey were demographics, knowledge/awareness vs skills and attitudes.

Data Collection and Response Rate

Survey responses were collected via audience - response system participation. Participation in the survey was optional, and respondents had the option to opt out at any point during the survey. The survey was sent to 54 internal medicine residents including transition year and 2 chief resident via a survey - monkey based audience - response survey. The answer to the questions could not be linked to an individual responder due to the nature of its anonymity.

Data analysis

Baseline demographics and background information provided by the responders were summarized using frequencies and percentages. All questions assessing respondent attitudes and behaviors were assessed using a 5 - point Likert scale (answers ranging from "very unfavorable" to "very favorable"). The small sample size prevented use of tests to assess for significance amongst groups.

3. Results

28 out of 57 potential trainees responded indicating a 49% response rate Among the responders 32% were transitional year, while 18% were PGY1, and 50% were PGY2 or higher.72% had medical school training in USA while 72% were male, 18% female. Self - identified racial mix was White (62%), Hispanic/ Latino (12%), Black (8%), Asian (8%). Middle eastern (4%), South Asian (4%).72% respondents identified as Millennials, 24% as Gen Z, and 4% as Gen X. Instagram (86%) and Facebook (64%) was the most used social media service for social connections (Figure.1), while Doximity (39%) and LinkedIn (36%) was most commonly used for professional work and entertainment was the most common purpose (82%) Socially social media was mostly used for entertainment (82%), following friend/ co - worker (61%), socializing (61%), viewing posts/podcasts/ reels etc. (57%) and education/ learning (50%). Professional use was mostly for following a group/ professional networking (25%), and research 21%. (Figure.2)

Entertainment (80%) followed by staying up to date on social connections (60%), staying abreast of the latest news (58%) and improving knowledge/ education (54) had the most favorable impression. Sharing confidential information (0%), effect on emotional health of user (8%), professionalism (15%) had the least favorable impression. Notably, the biggest difference between subgroups was the impression about PHI. While no one was favorable about using social media for sharing confidential patient information, the first - year residents were less unfavorable compared to the rest (46% v/s 92% for very unfavorable), about the matter. The mean use of hours per day (1.75) was the same regardless of year. Among high - social media users (above median average >1.75 hours a day), social media use for socializing was high. This was different by at least 50 percentage points and they used Instagram (93%) more compared to lower users (79%), while lower users used Facebook (71%) more than high users (57%). Additionally, high - powered users had a less favorable impression of social media for job seeking and emotional health. (Figure.3)

4. Discussion

Our pilot study aimed to explore the social media use and attitudes toward use of social media amongst internal medicine residents. The use reflects broader awareness and use of social media amongst our populations. Social media use may also differ based on generational context. A study by Pearson of Emergency Medicine residents and faculty demonstrated that residents used social media more than faculty. They mostly used Facebook and YouTube for social use and used Twitter and LinkedIn less than faculty. Their professional use revealed an interest in looking for open positions/ hiring and watching videos and less interest than faculty in looking at award postings or publications. Hence, its important to be aware to the different goals and interests for personal and professional use of social media amongst learners and faculty.[13]

Although we did not see a major sex difference in social media use, a study by Hameed noticed that male sex and increase age was associated with lower social media use, while surgeons compared to medicine physicians had higher social media use.1[4] The use of social media and attitudes that varied amongst young trainees compared to those that have been in the program for more than a year could be a reflection of liberal use of social media amongst this group or a reflection of lack of awareness of optimal social media use which may be present in trainees who have spent some time in the program and learnt expectations around professional behavior through non - formal channels. Table.1 In our study 28 % of respondents completed medical school outside the US and likely to use social media more to stay connected to family.

Benefits of and attitudes toward social media use:
Social media use has its inherent benefits and risks. Most users use social media for personal use like maintaining social connections with friends, colleagues and posting content. Professional use is increasing amongst trainees as well as training programs. Instagram, YouTube, and Facebook are primarily used by surgical trainees who also saw improving patient education and networking as primary benefits and identified unprofessional conduct as a potential concern.[15]

Trainees use it for accessing teaching content, following consultants, obtaining information about a program while training programs use it to market themselves to future trainees, share educational content, monitor professional behavior of current and future trainees and staff. Benefits of social media include ease of use, timeliness of communication, and wide audience range.[16]

Risks of Social Media
The interconnectedness of personal and professional life leveraged by social media lends itself to many challenges like unprofessional conduct and negative effect of excessive social media use on users. Private practitioners are more likely to use social media for patient education and promoting their practice to acquire more patients. Time involvement and potential for patient privacy breach is a possible barrier for social media use.[17] Study amongst Radiation oncology trainees identified distraction from studying, and pressure to maintain a professional social media presence as major disadvantages.[18] A study amongst trainees from Oman use social media for personal and professional use and are rightfully concerned about patient privacy while using social media for patient care purposes since more than half of the residents across different specialties stated lacked proper training on safe social media use.[19]

A major risk associated with the use of social media is the posting of unprofessional content that can reflect unfavorably on healthcare providers, students, and affiliated institutions. Physicians and other healthcare providers should not discuss patients' illnesses, medical conditions, or personal information online without the patients' permission.1[1] Also, some GME programs review online behavior of applicants, trainees and faculty.[20]

Some social media sites can leverage its addictive nature and user information for their benefit. Lack of adequate regulations of social media sites can expose them to spread of misinformation.7 Higher social media use has been linked to increased perception of social isolation.[21] Exposure of melatonin - depleting blue light, bedtime use due to fear of missing out, engagement with content viewed can negatively affect sleep onset and quality hence affecting sleep hygiene. Increased social media use can have negative effect on self - esteem specially if one compares their personal success or lack thereof with their peers. This can lead to depression, use of social media for support in dealing with thoughts of self - harm etc.[22]

Clinicians, although having improved awareness of social media, have limited participation and knowledge about opportunities.[12] Younger physicians tend to be higher users of social media. Practicing clinicians agree that social media can be beneficial in patient care and think proper social media use should be taught early in medical education with focus on professional use, clinical practice integration, professional networking, and research.[23]

A qualitative study by Campbell revealed the importance of the fact that there exists a variability amongst physicians in regard to their role, responsibility and comfort level while providing medical content, hence underscoring the need to educate clinicians on best practices to optimize social media health communication to benefit patients.[24] Similarly even though nursing students may be generally aware of safe and professional social media use, there exists a need for training on optimal social media use to mitigate risk of unprofessional behaviors.6 Hence, there is a need to create awareness amongst trainees for personal and professional benefits and risks of social media use and education for optimal use. Various guidelines created by healthcare organizations and professional societies are available for reference.

Some Healthcare organizations like Federation of State Medical Boards and The National Council of State Boards of Nursing have issued guidelines on the appropriate use of social media.[11] Santhosh suggests that trainees remember the "New York Times" rule of ethical conduct, which suggests that one should not post anything on social media that you would not want to be reported on the front page of a newspaper. This includes comments or posts that may be perceived as unprofessional. It's also important to be mindful of timelines of posts since patients and families who follow a physician on social media may perceive some posts as invasion of privacy if they relate to the patient's clinical situation.[25] Also it is a good strategy to avoid giving medical advice on social media, befriending patients, and clarifying if your posts are personal in nature or represent those or the organization you work for.[16]

5. Limitations

Our study was a single site, small sample size with a survey administered to a potentially captive audience. Although differences existed amongst first year and other trainees, small sample size prevented assessment for significance. The survey was elective, and results were skewed based on who responded (trainees are more likely to use social media if have otherwise higher online usage). It is also possible that those

who did not respond to the email have different social media use than those who did respond.

6. Conclusion

Awareness and understanding of social media in healthcare are on the rise; nevertheless, there is a limited depth of knowledge and engagement in social media, underscoring the necessity for enhanced training of medical professionals in the meaningful and professional utilization of social media. Great information that can be used to construct a larger study amongst practicing clinician in and outside of organization.

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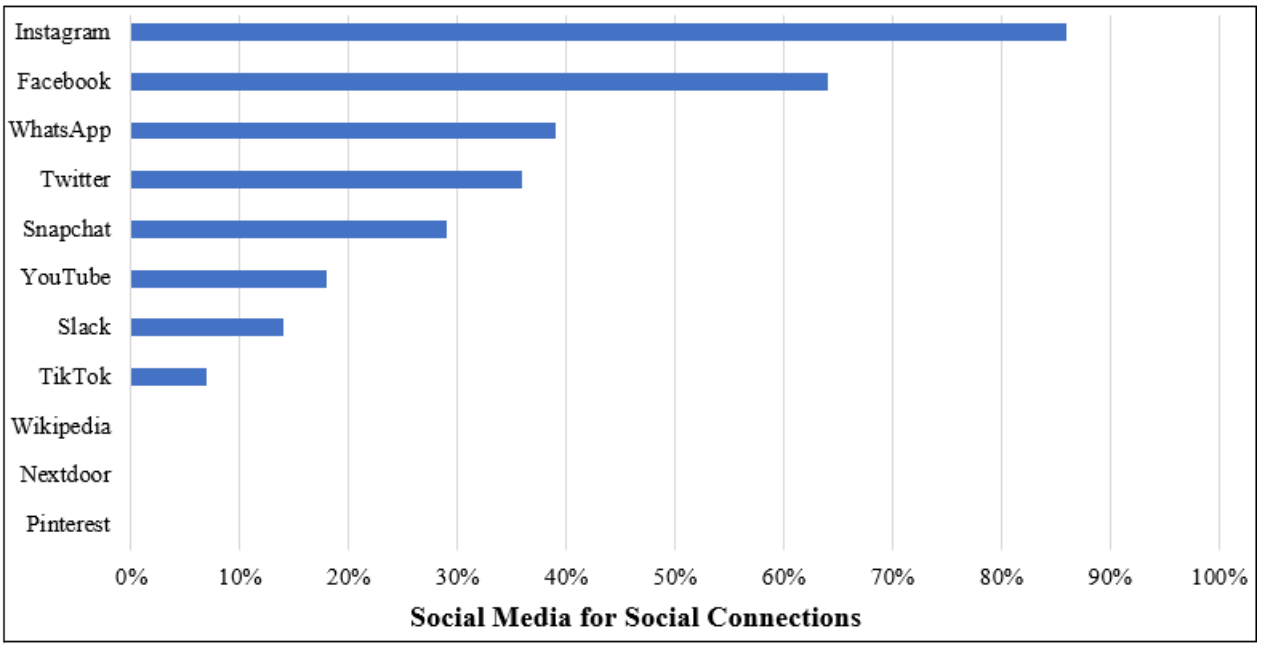

Figure 1

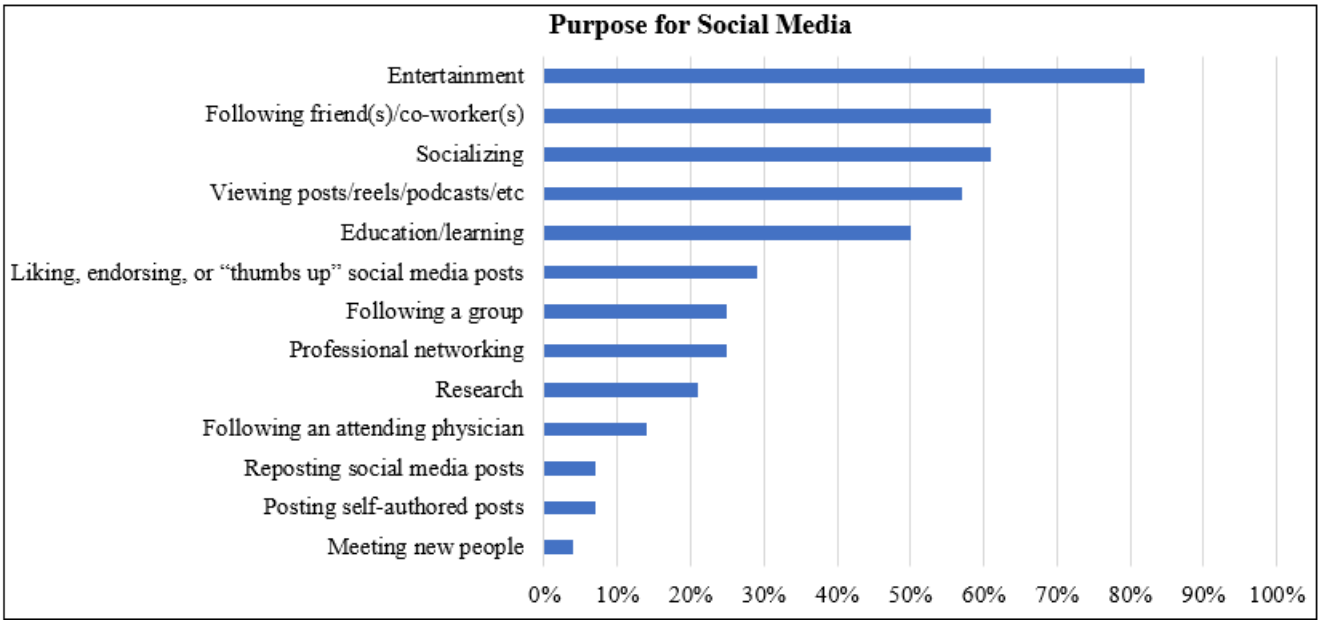

Figure 2

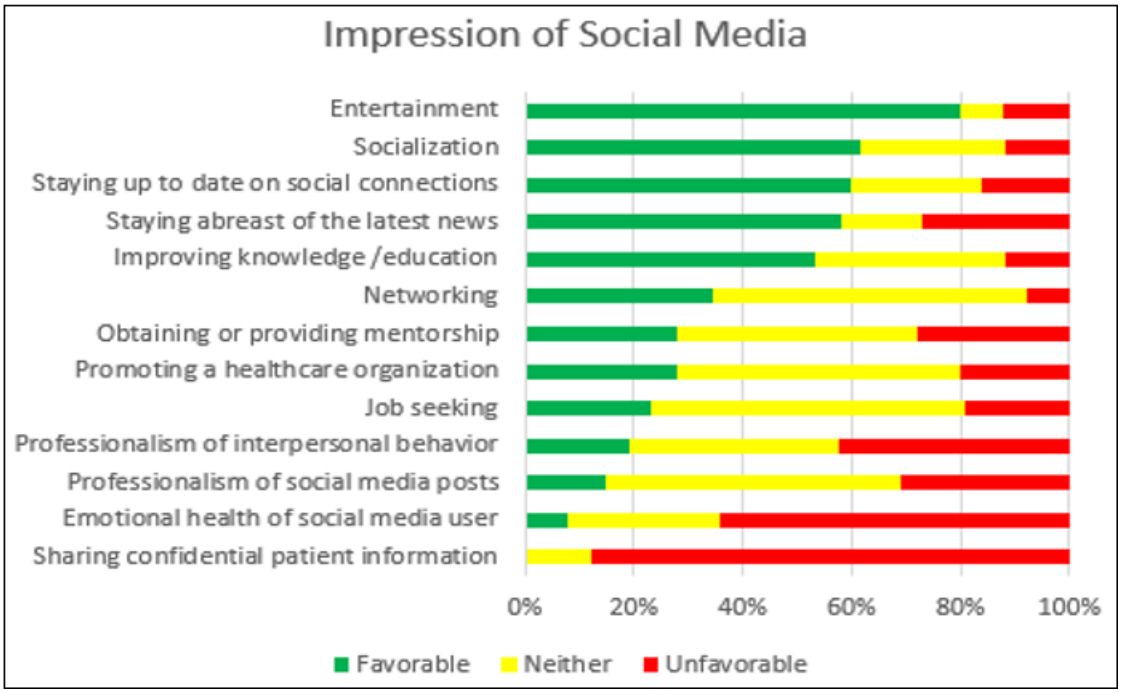

Figure 3

Table 1

	Year 1	Year 2+
Sharing Confidential patient information (5L)		
N	13	12
Very Unfavorable	6 (46%)	11 (92%)
Unfavorable	4 (31%)	1 (8%)
Neither	3 (23%)	0 (0%)
Favorable	0 (0%)	0 (0%)
Very Favorable	0 (0%)	0 (0%)