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Leveraging the use of a social media app as a collaborative medical information and knowledge sharing tool—insights from experiential use and survey of a CME WhatsApp community

Nagendra Kumar Singh^{1*}, Akashkumar N Singh², Bijay Patni³, Ajoy Tewari⁴ and Sanjeev Phatak⁵

Abstract

Background and aim Continuing Medical Education (CME) is crucial for physicians to stay current in the rapidly advancing field of medicine. A WhatsApp (WA) based community of physicians was initiated in 2016 'WhatsApp CME India Group' to facilitate learning, knowledge sharing, and discussion among physicians. Due to participant size constraints of the technology, it evolved into seven distinct WA groups, overseen by a central administrator. A survey undertaken in the group's 7th year aimed to evaluate its effectiveness in achieving its goals, measure participant engagement, and uncover the primary factors driving its usage.

Methods The survey questionnaire was distributed to 3500 members across the 07 WhatsApp CME groups for voluntary participation. Data collected was analysed using SPSS version 24.0 (SPSS Inc., Chicago, IL, USA) and reported using descriptive statistics.

Results Among the 581 survey respondents, the study found 43% of physicians use the WhatsApp academic groups for CME content, with 32% accessing their group over four times daily. The primary motivation for 77% was to discuss challenging cases and to gain knowledge updates from fellow physician (70%). Medical websites (57%), referral books (49%), and Google (43%) were other significant resources. Every participant (100%) found the WhatsApp CME India group the most beneficial resource for daily medical science updates. A significant portion (57%) of the respondents found the group valuable for real-time information exchange. Over 78% stated it kept them current with knowledge and guidelines. Notably, 94% viewed WhatsApp CME as complementary to physical conferences, not a replacement. The post-conference/webinar summaries were appreciated by 81% participants. Case discussions (31%) and update posts from fellow physicians sharing their insights and learnings (24%) were noted as activities of great academic interest.

Conclusion This study underscores the potential of digital platforms like WhatsApp in supplementing CME in India and potentially other comparable settings. The blend of digital and traditional resources suggests a balanced learning approach. While real-time engagement is a strength, challenges like information overload and privacy concerns

*Correspondence:

Nagendra Kumar Singh
drnksingh60@gmail.com

Full list of author information is available at the end of the article



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require careful management. Striking a balance is crucial for ensuring content quality, structured discussions and privacy. As the digital age advances, professionals must critically assess shared information on these platforms to guarantee evidence-based and reliable knowledge dissemination.

Trial registration ARK 001.

Keywords Continuing Medical Education (CME), WhatsApp, Medical professionals Education Tool, Professional Development, Social Media, Facebook, Digital Education

Introduction

The proliferation of mobile technology, particularly the widespread adoption of smartphones, has had a profound impact on how professionals' access and share information through social media (SM) as "a collective term for the different interactive platforms, websites and applications intended for digital networking, that allow individuals and organizations to create and share user-generated content digitally." [1] Most of the research done regarding the acceptance and use of SM for professional activities is that of public SM presence such as Facebook and X (previously Twitter) or LinkedIn (LI). Hameed et al. [2] reported SM presence among approximately 70% of physicians in a US based survey though SM activity was low, with approximately 90% of physicians posting 0 times per month. SM presence and activity do not always correlate with the study reporting female and younger physicians' higher odds of SM presence, while surgeons and older physicians had higher SM engagement and followers. The links to most social media handles for sharing content on websites and online journals are for LI, Facebook, X and increasingly Instagrams.

WhatsApp is a popular instant messaging digital platform (<https://www.whatsapp.com/contact>) [3] available in 180 countries. As of June 2023, there were approximately 2.78 billion unique active WhatsApp users globally with the highest number in India. The platform allows for an easy-to-use interface and generating and sharing content in real time therefore finding significant traction within various professional communities.

WhatsApp groups have emerged as focused communication hubs for professionals, including those in the medical field. These platforms offer a democratic space for discussing cases, sharing knowledge, seeking real-time peer expertise, and collaborating on best practices. However, the use of WhatsApp for professional purposes among large groups has its limitations. The high volume of messages and the potential for false narratives can create noise, causing important information to get lost amidst the medium. Effective moderation and adherence to clear guidelines are essential to ensure that the intended message is conveyed effectively, and the group remains focused on its primary objectives.

Continuing medical education is a formal requirement and one of the key drivers of physician engagement with their peer community and other allied groups in various in-person and virtual modes and essential in keeping up with the rapidly expanding field of medicinal research and treatment evolution.

The ability and access to sift through focused good quality content, attend medical conferences/webinars/workshops/podcasts live case discussions is valuable, but may not always be feasible to all physicians, particularly those in remote areas or in very busy practices [4]. While a lot of content is now delivered and accessible online, going through several different websites or publications requires a disciplined daily engagement, which may not be in everyone's realm of ability.

If the community were to be able to follow a well-defined protocol or rules of the group and therefore allow it to function as a live interactive platform and not restricted as a broadcast group or a one-way communication platform, its use as a CME tool could be better leveraged and over a period, such platforms could integrate themselves as formal mechanism of verified information and expertise exchange.

We present here the experiences of one such professional community using WhatsApp as a CME tool and the results of a cross-sectional questionnaire-based survey that was undertaken to assess its impact and effectiveness amongst the 3500 physicians.

Methods

The WhatsApp CME India, a cluster of 07 WA groups is a rapidly growing community currently of 3500 registered medical professionals largely from internal medicine and allied branches across the world, majority from India (including rural areas), and Indian origin NRI medical professionals. This professional WA platform cluster was founded seven years back as a single group by a physician with the aim of being a platform for exchange of expertise and experience in the speciality of internal medicine.

The primary engagement of this cluster of groups is to share and deliberate on interesting cases, offer, and seek real time expert opinion, discuss publications, medical guidelines or topics in current focus. To keep it interesting and engaging, medical quiz, history in medicine and

similar engaging topics constitute part of daily updates. The cluster is constantly reminded of the need to keep the communication focused only on the key objective of being collective experiential knowledge sharing professional community. The administrator ensures that the group engages strictly on topics or cases related to internal medicine and all distracting communication is discouraged.

While each of the group is an independent WA group by itself, the administrator and a core team are part of each group who herd the conversations towards common themes, post updates, guidelines and enable fostering discussions on complex cases that are put up by the group participants. The community therefore engages parallelly on several similar themes and cases with the administrator threading these conversations and cross disseminating them in each of the 07 groups.

This prospective observational survey questionnaire was developed to quantitatively assess the utility and value of this knowledge sharing and learning platform for the group members. It aimed to examine attitudes towards engagement in group interactions by the participants, the determinants, or drivers of WhatsApp CME India group usage among healthcare professionals. Through a comprehensive assessment, the survey sought to understand its impact on enhancing knowledge, its reach, engagement levels, and the benefits and challenges faced by its members.

The questionnaire for the survey was created using Google Form (Google LLC, Mountain View, CA, USA) and shared amongst the WhatsApp CME India groups between May and June 2023. The survey instrument was developed by the authors, and vetted by an expert committee, which included two specialists, a statistician, and the authors of the current study. The questionnaire sought to understand the impact of the group and the member engagement activities qualitatively and quantitatively as a learning and teaching tool. Specifically, the questions were related to the quantum of daily engagement, the value of the group in the hierarchy of available learning options, the comparative utility of the various offerings in the groups and staying true to its objective in being a platform aiding CME.

The questionnaire was shared as a link in each of the groups as well individually, leveraging the innate messaging feature of the platform.

The objective of the study and an invitation to voluntarily participate was also stated with the shared link. These links were sent thrice (once every 2 weeks) to all potential participants during the study period, starting May 2023. A response could only be submitted once by each participant. After the closure of the survey, the data

were analysed using SPSS, version 24.0 (SPSS Inc., Chicago, IL, USA) and reported as descriptive statistics.

Participation in the survey was voluntary and limited to members of the 07 groups. No identifying data or participants demographics, except country of residence were collected. The study protocol stated that providing response to the questionnaire implies informed consent and willingness to participate. The study protocol was reviewed and approved by the ACE Independent Ethics Committee, Bangalore (DCGI Reg. No. ECR/141/Indt/KA/2013/RR-1).

Results

Among the 3500 medical professionals from the various WA groups under CME India $n=581$ (16.6%) participants responded, 25% of the responders were from North America and rest from India.

As per the responses every respondent accessed the group messages daily, with the majority of the respondents (43%) accessing it between 1 to 4 times a day, while 32% accessed it more often (Fig. 1).

Multiple avenues that are available as information and knowledge resources were all sought by the doctors, where 48% of the participants considered the WhatsApp CME India group as a valuable resource for seeking inputs while dealing with challenging cases, at par with other significant resources such as specific medical websites (57%), closely followed by referral books (49%) and the information accessed through the Google search engine (43%) (Fig. 2).

While all the attributes of the WhatsApp CME India group were cited to be of significant value, group discussions on medical cases (77%) and fellow physicians sharing their insights and learnings (70%) were the most attractive attributes of the group, with shared summaries of recent publications, ongoing CMEs and conferences following closely (Fig. 3).

All the respondents concurred that the WhatsApp CME India group was a powerful tool for medical education. According to them, it provided a means of continued medical education by providing a platform for keeping current with evolving knowledge and evidence-based guidelines (78%), a world view of current medical practices (57%), and channel for professional communication across a wider geographical network (Fig. 4).

As a platform for promoting CME activities, the ability to supplement knowledge and the attributes of functioning of the group, namely staying focused on medical communication with restriction of non-medical messages (68%), continuous moderation of the group allowing for meaningful discussions (70%), and the provision of a larger canvas of learning, facilitating collaboration in

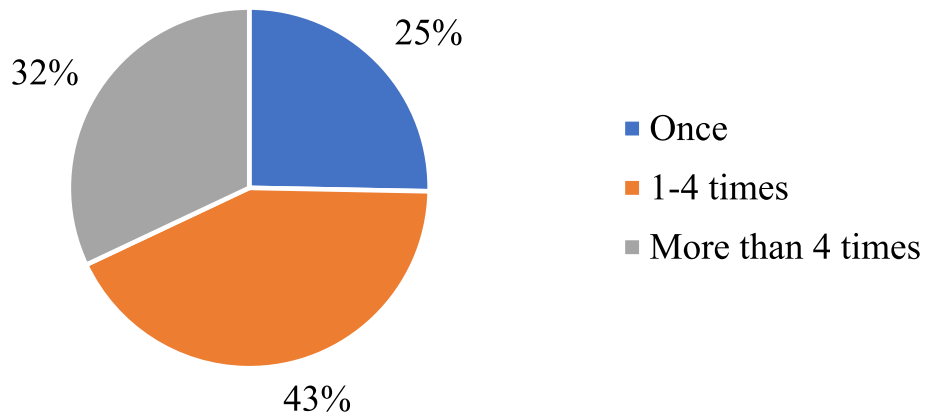


Fig. 1 Percentage and Frequency of people relying on WhatsApp CME India group in a day to access CME content

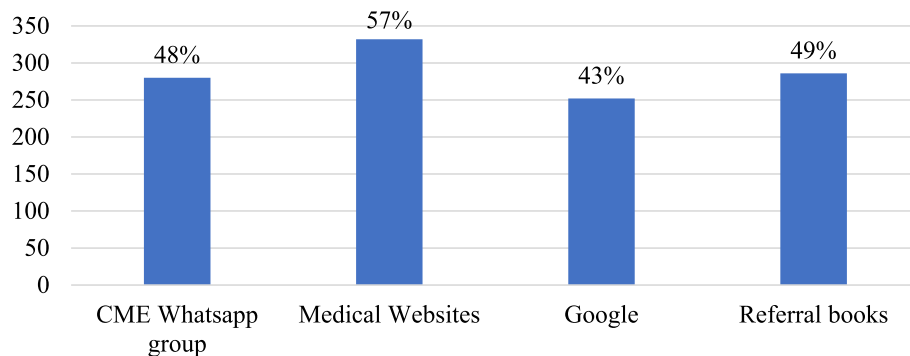


Fig. 2 Valuable Resources Accessed for Information

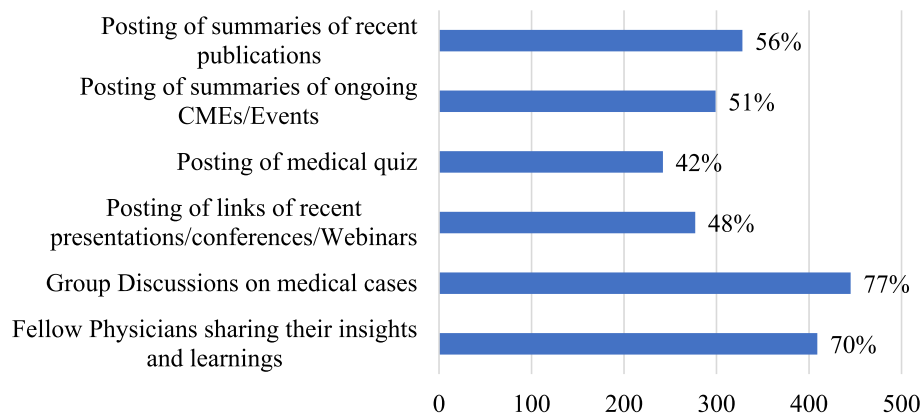


Fig. 3 Most Attractive Attributes of the WhatsApp CME India Group

research and clinical trials (49%) were all well regarded (Fig. 5).

A large majority of respondents (94%) felt that while the WhatsApp CME India group was a supplement to physical conferences and not a replacement, the

post-conference/webinar summaries (81%) shared on the group were well appreciated. Case discussions (31%) and update posts from fellow physicians sharing their insights and learnings (24%) were noted as activities of great academic interest (Fig. 6).

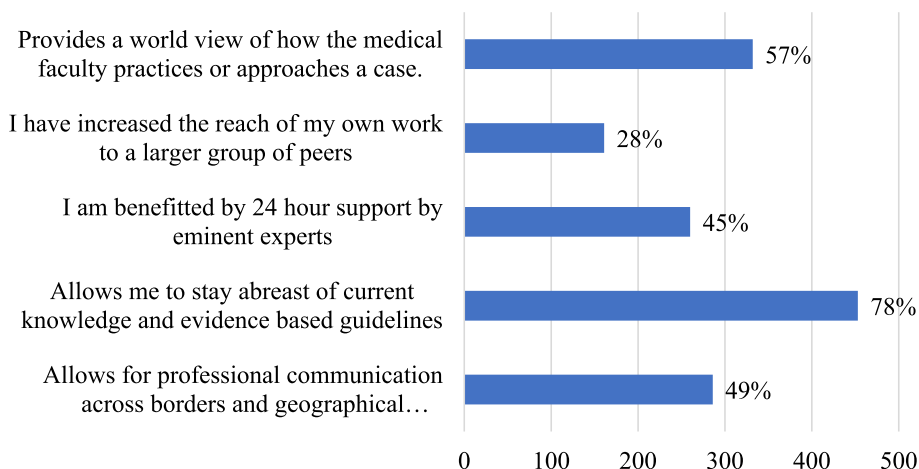


Fig. 4 Useful Objectives of the WhatsApp CME India Group

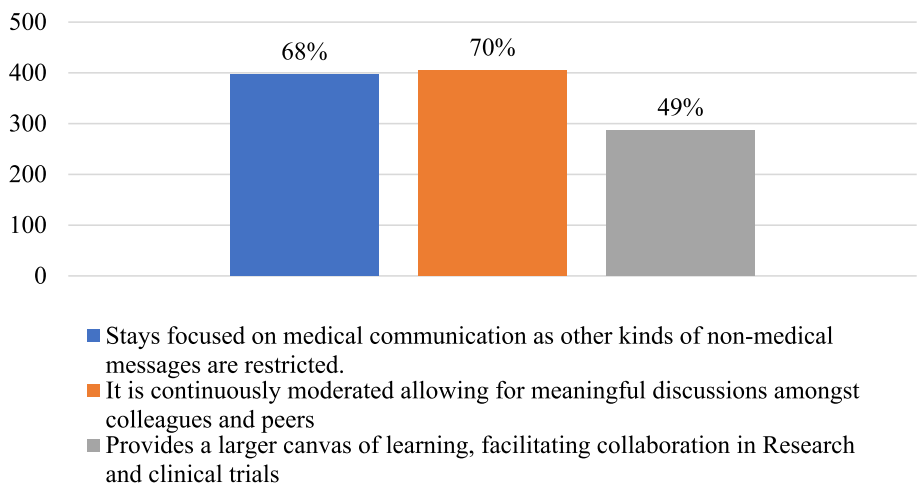


Fig. 5 Most Attractive quality of the WhatsApp CME India Group Functioning

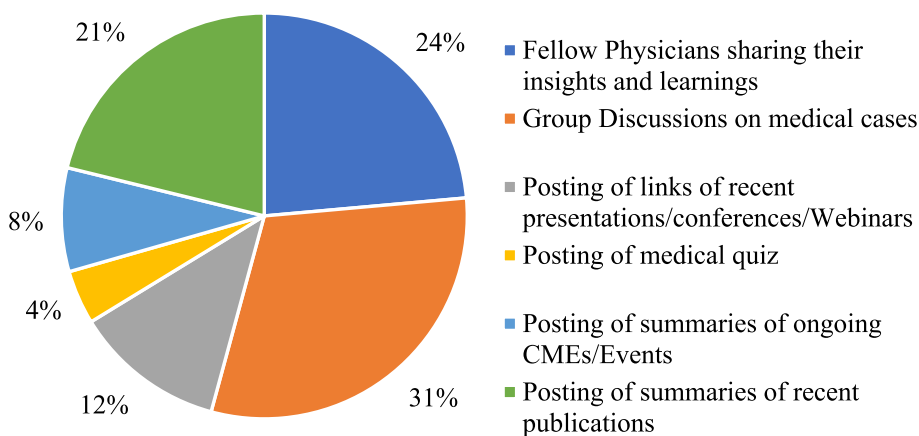


Fig. 6 Activities of Most Academic value in the WhatsApp CME India Group

Discussion

The use of social media is expanding globally and increasingly these platforms are being integrated with traditional forms of learning. CME offering such as conferences and webinars have often utilised Facebook and Twitter to expand their reach [5]. In our understanding, a professional community utilising WhatsApp as CME platform such as ours, providing learning and knowledge sharing opportunities on a daily basis over seven years is one of its kind.

The appeal and value addition as a modality for CME is reflected in the sustained growth of the WhatsApp CME India group from a single group to seven groups (limited by the application's restriction of number of participants per group until recently) and its potential for further growth is limitless, given the technological advances in the platform itself, such as larger groups and the forming of Communities.

The results of the survey provide a valuable insight into this potential of using a social media messaging platform for CME activities. The user interface, existing user experience and ease of use of the platform when coupled with adherence to group guidelines and effective moderation have the potential for it be used a powerful educational tool.

In this survey, all elements of the group's activities were regarded as key academic components, including case discussions, case queries, discussions on recent guidelines, new therapies, and summaries of key publications or takeaways from conferences. These activities seamlessly integrated with traditional information resources, such as medical websites, referral books, and search engines like Google, to form a comprehensive and crucial CME modality. This finding demonstrates that medical professionals are receptive to using blended learning methods, combining both digital and traditional resources to access information and enhance their knowledge.

The high prevalence rate of case discussions (77%) and updates from fellow colleagues' (70%) sheds light on the collaborative learning culture which is uniquely possible only in a democratic real time platform such as WhatsApp.

Among 3500 members, 581 (16.6%) returned the survey, a number lower than the average rate of survey responses [6] is however reflective of how any of these group's function where a small minority of members are usually its most active participants. This insight into the reality of most social media groups, wherein most participants remain inactive, and social communication and therefore the flavour of the knowledge sharing is driven by the active members. The administrator

plays a pivotal role in introducing new topics or steering away from ones that have outlived their potential.

The reach of the platform which is agnostic to geography of the region is of immense importance as an educational tool. While information on some of these elements were not specifically sought from the survey itself, they have been discussed in the group's own discussions as advantages especially during the COVID-19 pandemic.

While the groups real-time nature and its reach across geographies is an advantage, an overwhelming inflow of information can soon lead ennui [7]. Additionally, limited group size, difficulty in tracking of responses across the groups, data retrieving and archiving, delivering structured content, privacy, and ethics considerations, potential to be overused or misused with information (overload or false narratives) etc. that may cause distractions, unstructured discussions, and the potential for misinformation, are inherent challenges that need to be addressed [8, 9].

For administrators and educators, these limitations can pose significant challenges that they need to overcome to analyse the study outcomes. However, the results from this study showed that the administrators and educators can overcome these limitations and efficiently use WhatsApp which was primarily built as a social media messaging platform as an interactive learning tool with the use of right protocol and processes.

The successful use of this medium requires a trifecta of an easy-to-use digital platform, development and adherence to group guidelines and most importantly active administrators and moderators continuously moderating and helping the group which is a mammoth task. The survey did not inquire about the limitations of using WhatsApp as an educational modality or seek suggestions on how to improve it. This represents a potential gap in the research, as understanding the limitations and exploring ways to enhance the effectiveness of WhatsApp as an educational platform would provide valuable insights for future studies and educational interventions.

The study acknowledges the limited response rate and the possibility of not capturing the perspectives of all group members. It highlights the importance of considering individual learning behaviours, the need for discipline-specific investigations, and the necessity of exploring the limitations and potential improvements of using WhatsApp as an educational tool.

Conclusion

In summary, the sustainability and growth of this WhatsApp CME India group highlights the potential and opportunity for using social media for professional knowledge sharing in an integrative and interactive manner. Survey results underscore its role in peer-based

learning, aided by user-friendly features. However, challenges like information overload, propensity to digress require careful moderation which is time and effort intensive. Understanding WhatsApp's limitations and seeking member input for improvement are essential for maximizing its educational potential. Overall, while promising, continued research and refinement are needed to enhance its effectiveness in professional education.

Acknowledgements

The authors acknowledge the writing support provided by Arkus Research Pvt. Ltd.

Authors' contributions

NKS and AKNS—conducted the study. BP, AT and SP—Monitored the study. 1–5—All authors reviewed the manuscript.

Funding

No funding sources were used for the preparation of this manuscript.

Availability of data and materials

All data generated or analysed during this study are included in this published article.

The datasets used and/or analysed during the current study available from the corresponding author on reasonable request.

Declarations

Ethics approval and consent to participate

The study protocol was reviewed and approved by the ACE Independent Ethics Committee, Bangalore (DCGI Reg. No. ECR/141/Indt/KA/2013/RR-1). The study protocol stated that providing response to the questionnaire implies informed consent and willingness to participate.

Consent for publication

Not applicable.

Competing interests

The authors declare no competing interests.

Author details

¹Diabetes and Heart Research Centre, Near Dhanbad Guest House, Shramik Chauk, Rangatand, Dhanbad, Jharkhand 826001, India. ²Manjalpur Hospital Pvt Ltd, Manjalpur, Vadodara, India. ³DRWA, Diabetes Wellness Care, Kolkata, India. ⁴Jai Clinic and Diabetes Care Centre, Lucknow, India. ⁵Vijayratna Diabetes Centre, Sumeru Centre, Paldi, Ahmedabad, India.

Received: 5 November 2023 Accepted: 21 August 2024

Published online: 03 September 2024

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