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Communication Methods in Medical Practice

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Introduction

Patient care has been revolutionized by the information age, the last two decades have seen diagnostic and treatments transformed by widespread technological progress [1]. However the methods by which physicians communicate with each other remains reminiscent of a period before smartphones and social media [2]. Communication and collaboration is essential for a medical team in order to minimize errors in the treatment of patients and to provide best results. Communication is an integral aspect of patient care. Verbal Communication used to be a primary method of communication. In the second era of last century, pagers and telephone communication were integrated. Pagers were introduced in 1950, when it was a hefty 6-ounce box. Over the next four decades the device became a status symbol that you are in demand and you need to be reachable anytime. By 1994 there were 61 million pagers in use worldwide. But numbers are going down due to advent of cellular phones. Still pagers are being used in many hospitals because of their low maintenance. The batteries of pagers don't need to be changed more than once every few weeks. The system works even during disaster or power outage, when it might be hard to find a working outlet to charge a cellphone. But the most annoying part of the pager-based communication is that it only works in one direction. But of course it is one of the cheapest modes of communication [3]. Even when hospital administrators have the motivation to upgrade communication method, the cost can be prohibitive. Still some hospitals have started trying new approaches. Telephone communication can be rapid but not objective and precise. To add more accurate information to the verbal report clinical photographs taken by digital cameras were transmitted as downloadable files between computers having modem and telephone link as telemedicine has gained popularity in late 1990 [4]. New technologies have made communication faster, easier and far more inclusive. Many cellphone apps that ensures secure messaging and automatically deletes messages after a certain period of time for the sake of patient confidentiality. One of the apps is Tiger Text [5].

Special cellphones made for use in hospitals are another option. A volate phone for example, works a lot like a regular cellphone but has extra security to ensure privacy. Today WhatsApp has become one of the main mediums of communication. WhatsApp was created by Brian Acton and Jan Koum in 2009 and was sold to Mark Zuckerberg in recent years [6]. WhatsApp allows for free exchange between group members in a timely fashion. Gone are

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the days when we have to describe clinical finding by phone and using our own imagination. WhatsApp allows for multimedia sharing of photos and videos. It allows for keeping all members of the team involved in the care of the patients, not to mention it is the prime method of teaching development and discussion.

Global Uptake of Telemedicine

As global uptake of telemedicine has been slow especially in the developing world where the need is the greatest. Barriers to disuse in the developing world are infrastructure and telecommunication and extra work required for videoconference consultation or to submit patient data for store [7]. There is a little hard economic evidence of benefit of telemedicine over for example provision mosquito net, cold chain management of vaccines etc. Much has been written about use of mobile phone

application for medicine, surveillance, appointment or treatment reminders and delivery of medical services. Telephone has been the mean of communication between patient and doctors and between health professionals since at least 1879 [8]. The smartphone has introduced a new dimension functioning as a pager, computer, camera, videoconferencing unit, audio recorder, data storage device and telephone. There has been evolution of spontaneous, unplanned telemedicine services using mobile phone apps, WhatsApp designed for text, voice, video and image transfer. WhatsApp is a proprietary free mobile messaging client for smart phones using androids, iOS and Windows phones. It is widely used with over 1 billion active users. Without the need for expensive video conferencing equipment or computer network. Doctors in the developing world have found practical use for it in clinical and administrative settings because the services are easy and free to use. As with any health clinical service data security, confidentiality and privacy issues need to be addressed. Data security during transmission of information, its storage on phones and chat message records is of serious concerns. To send a WhatsApp message an Internet connection is needed. The message is routed to a WhatsApp server and server attempts to send the message to the recipient. If and when the Internet connection of the recipient is available, the message is forwarded and gets deleted from the server. If after one month, recipient does not receive the message, it gets automatically deleted from the server. Now when using most recent versions of WhatsApp all messages and multimedia files sent for one to one or group communication are end to end encrypted in both iOS and android systems [9].

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Level of encryption has been a problem for security agencies that are not able to access decrypted messages. There are concerns from India, UK and Brazil relating to security and drug trafficking.

In developing world like India issues of patient confidentiality are not frequently regulated and as such is a less of an issue than developed countries. With improvement in encryption WhatsApp is a viable option of telemedicine and has the potential to improve telemedicine.

Among all communication methods, use of WhatsApp in clinical services has been extensively studied. The majority of studies published were confined to interdepartmental communications across a range of aspects including endorsements, second opinion, academic scheduling and sharing images [10,11]. Majority of users keep patient identity confidential. In a study published by senior author, a questionnaire was given to residents about effectiveness of WhatsApp as a mean of communication. Almost all respondents were highly satisfied with this mode of communication [11].

Conclusion

In conclusion, WhatsApp due to its simplicity, low cost and recent encryption has attracted a good proportion of health care practitioners for developing telemedicine service in less than ideal settings. The recent advent of end-to-end encryption reduces security concerns. Now it is the time to develop guidelines for use that will take ethical, and local legal regulations in consideration.

However, there is a point of caution that messages of any sort cannot replace a personal conversation in cases of critical issues.