

## EDITORIAL



## Messenger Services on Smartphone: Changing Trends of Communication in Dental Practice

<sup>1</sup>Gargi S Sarode, <sup>2</sup>Sachin C Sarode, <sup>3</sup>Shankargouda Patil

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### INTRODUCTION

A smartphone has become an integral part of human life. It is estimated that there will be 200 million smartphone users in India by the end of 2016 and India will become the second largest smartphone market in the world.<sup>1</sup> Accordingly, Internet use on mobile has also flourished extraordinarily, and by the end of 2017, there will be 314 million Internet users in India.<sup>2</sup> This has been possible due to drastic decrease in the prizes of smartphones and Internet charges. Apart from calling and Internet browsing, smartphones are extensively used for sharing photos, videos, and messages on various messengers' applications like WhatsApp, Twitter, etc. Among these, WhatsApp is the most widely used application by all the age groups. Such apps can be downloaded free of cost via Internet and are available for all commonly used mobile platforms like Android, iPhone, and Windows.

Many people use such apps for entertainment purpose, but some people are using them in their profession, and

medical field is not an exception to this. Many scientific researches on use of smartphones in clinical settings acknowledge the wide applicability of messenger services like WhatsApp in day-to-day practice. For instance, in traumatology cases, WhatsApp has been used to establish an initial diagnosis and classification of tibial plateau fractures during emergency surgery so as to more quickly and adequately seek advice regarding plastic and reconstructive surgery.<sup>3</sup> Improved efficacy in communication among the staff of plastic and reconstructive surgery section at tertiary care health facility has been observed.<sup>4,5</sup> Many clinicians believe that messenger service is very effective and satisfying to all the staff members. Moreover, any notification on patient's events is quickly sent and received and immediate management procedure can be initiated in emergency situations. Although supremely advantageous, we believe that such practice is not a substitute for "actual" clinical examination, and it should be considered as a supportive and additional tool for enhancing the level of patient care.

Like medical field, use of smartphone apps in dentistry has also been widely studied. Petruzzi and De Benedittis<sup>6</sup> reported the use of WhatsApp as a telemedicine platform for facilitating remote oral medicine consultation and improving clinical examination. Clinical images and related questions were submitted by general dentists, physicians, dental hygienists, and patients to the authors via WhatsApp. The telemedicine impression agreed with the clinicopathologic assessment in 82% of the cases. Zotti et al<sup>7</sup> studied the usefulness of WhatsApp in improving oral hygiene compliance in adolescent orthodontic patients. It was concluded that weekly sharing of selfies of their smiles in a WhatsApp-based chat room contest is an effective and long-lasting way to improve oral hygiene compliance in adolescent orthodontic patients. This innovative approach was also effective in decreasing incidence of white spot lesions during the first year of treatment with a multibracket appliance.

<sup>1,2</sup>Department of Oral Pathology and Microbiology, Dr DY Patil Dental College and Hospital, Dr DY Patil Vidyapeeth, Pune Maharashtra, India

<sup>3</sup>Department of Maxillofacial Surgery and Diagnostic Sciences Division of Oral Pathology, College of Dentistry, Jazan University Jazan, Kingdom of Saudi Arabia

**Corresponding Author:** Gargi S Sarode, Associate Professor Department of Oral Pathology and Microbiology, Dr DY Patil Dental College and Hospital, Dr DY Patil Vidyapeeth, Sant-Tukaram Nagar, Pune, Maharashtra, India, Phone: +919823871462, e-mail: gargi14@gmail.com

The oral and maxillofacial area is anatomically, histologically, and physiologically very complex and so is its pathology. And hence a second opinion matters a lot in achieving proper diagnosis and treatment plan.<sup>8</sup> Many medical faculties, dental faculties, general dental practitioners, students, and even patients are using smartphone apps for communication and second opinion from dental experts on a day-to-day basis. Clinical photos, X-rays, computed tomographic images, magnetic resonance imaging images, laboratory investigation reports, histopathology images, demographic data, clinical symptoms, etc. are being transferred on everyday basis worldwide for seeking accurate diagnosis and treatment. Unfortunately, such a huge and precious data is not being properly analyzed and documented in the form of research paper. We believe that there is a tremendous scope for future research on the use of smartphones in dentistry.

Oral cancer incidence has become a major health issue at the international level.<sup>9</sup> Even after the exceptional molecular advancement in the field of cancer research, the mortality rate has not reduced significantly.<sup>10-12</sup> Early detection of oral cancer is the key to success in the management of patients.<sup>13</sup> Since oral cancer is preceded by myriads of oral potentially malignant disorders, it is possible to catch these lesions as well as oral cancer at an early stage by using various means.<sup>14,15</sup> And we believe that photo-sharing facility on messenger service could be tremendously helpful in this regard. We recommend future community-based studies on the role of WhatsApp in early detection of oral cancer.

In many worlds' major mass disasters, forensic odontology played an important role in victim identification.<sup>16</sup> Victim identification in mass disaster is purely exacting science where antemortem dental records are compared with postmortem records. Most of the times, these records are in the form of X-rays, clinical photographs, restorations, and casts. We believe that transfer of such data over messenger service on smartphone will aid in faster identification of the victims in mass disasters.

It would be absolutely unfair to give all credit of such a staller performance in clinical practice to messenger apps. An equally important part is the camera in the smartphone. With the advancement in the technology, the cameras in the smartphones are becoming more and more sophisticated in terms of image and video qualities. With the facility of autofocus, high resolution, high megapixel, and extended zoom not only doctors but also paramedical staff and patients are able to capture good-quality clinical and radiological images.

Although messenger service on smartphones has a very bright future in the coming years, this technology

has some disadvantages. The most important is reduced verbal communication, which is very important in maintaining and strengthening personal relationships in professional life. Such kind of "virtual communication" often is responsible for causing misunderstanding between the team members, which is detrimental to the professional relations. Another major problem is the security and protection of patients' medical data, which are shared on messenger. With increasing incidences of cyber crime, it is possible to hack patients' data and misuse them. Moreover, inadvertent sharing of patients' personal information to unrelated members can pose serious medicolegal problems. Other minor problems that can occur are more frequent interruptions, a disparity in what is urgent and nonurgent scenarios, and unprofessional behavior in some instances.

We recommend modifications in such apps, which will manage the security of clinical data and communication records. In future, a secure messenger application for the use within health care institutions should be developed with storage server within the control of the hospital administrative authority. Setup of such facility is not a big deal as many hospitals have information technology infrastructure with qualified staff. As such form of communication may bring many benefits to the health care, data protection should be the main aim and first and foremost concern for all future applications.

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