LETTERS TO THE EDITOR

WhatsApp: a telemedicine platform for facilitating remote oral medicine consultation and improving clinical examinations—a commentary

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To the Editor:

We congratulate the authors for their commendable work on telemedicine systems. It is an innovative study where the authors used information technology to diagnose various lesions of the oral cavity. The authors also discussed studies done in an oral medicine setting and their limitations.[1] The authors reported values about which the authors were in agreement as well as the techniques used, whereas kappa statistics would have been more appropriate in this context. Kappa statistics are based on the difference between observed and expected agreement. Kappa statistics can be seriously affected by the low prevalence of a condition but still can provide more information than measures of agreement alone.[2]

The various devices used by the examiners were highlighted, but it would have been more meaningful if the authors had reported the gadgets that had used to capture images. Also, a note on the agreement with regard to intraoral sites and kappa statistics would have added more information to the paper. The authors could also have added a note on various applications that are similar to WhatsApp (Hike, Telegram), which can be used for data sharing for the benefit of readers so that results can be extrapolated to these applications.

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1. Petruzzi M, De Benedittis M. WhatsApp: a telemedicine platform for facilitating remote oral medicine consultation and improving clinical examinations. *Oral Surg Oral Med Oral Pathol Oral Radiol*. 2016;121:248-254.
2. Viera AJ, Garrett JM. Understanding interobserver agreement: the kappa statistic. *Fam Med*. 2005;37:360-363.

Response to: WhatsApp: a telemedicine platform for facilitating remote oral medicine consultation and improving clinical examinations

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In reply:

We thank you for your commentary about our article and appreciate your interest in our research. In the commentary you wrote: "…the authors used information technology to diagnose various lesions of the oral cavity"; however, the aim of our study was not to test the diagnostic efficacy of WhatsApp but to describe how an app may represent a "strategy for facilitating everyday patient-doctor interactions and providing faster clinical communication between oral health professionals."[1]

We agree with you about the importance and utility of kappa statistics in the evaluation of differences between an observed agreement and an expected agreement (we used it in our previous articles),[2] but in this case, we deliberately used only descriptive statistics to avoid supporting and emphasizing the idea of a "message-based diagnosis." Evaluation of the photos and comments would not be sufficient to make a diagnosis. As you can note, we use the term "telemedicine impression" or "telemedicine assessment" instead of "WhatsApp diagnosis" just to avoid conveying the message that in oral medicine the diagnosis is possible from an app alone.

We have not reported data about the various electronics used to capture images because it was not one of the aims of our study. However, all images were sent through a smartphone.

In relation to the various applications that are similar to WhatsApp (Hike, Telegram), we confirm that about 20 apps similar to WhatsApp allow data sharing on a smartphone. In Italy, Viber is the most employed

competitor. An interesting statistic about the most popular global mobile messenger apps confirmed WhatsApp as a prominent app, with more than 500 million monthly active users worldwide.[3] Many users are possibly dentists, dental hygienists, and potential patients.

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2. Petruzzi M, Lucchese A, Nardi GM, et al. Evaluation of autofluorescence and toluidine blue in the differentiation of oral dysplastic and neoplastic lesions from nondysplastic and neoplastic lesions: a cross-sectional study. *J Biomed Opt.* 2014;19:76003.
3. Most popular global mobile messenger apps. Available at: http://www.statista.com/statistics/258749/most-popular-global-mobile-messenger-apps/ Accessed January 3, 2016.