

COVO-CHAT: An Innovative Telemedicine Tool for Infodemic Management and Online Consultation during the COVID-19 Pandemic

Fatemeh Heidary¹, Reza Gharebaghi^{1*}

Dear Editor,

We noticed the interest of your journal about developing mobile application especially during COVID-19 pandemic [1].

An infodemic is an overabundance of information comprising false or misleading data during a pandemic that may cause misperception and behaviors that can damage to health [2]. Infodemic management may be performed through “information monitoring (infoveillance), building eHealth literacy and science literacy capacity, encouraging knowledge refinement and quality improvement processes; and accurate and timely knowledge translation, minimizing distorting factors such as political or commercial influences” [3]. Infodemics may have negative effects on areas with low health-literacy levels and poor healthcare infrastructure [4], and may therefore have adverse effects in underprivileged, remote areas and aboriginal populations.

False news, rumors, stigma, propaganda, and conspiracy beliefs have been distributed since the commencement of the COVID-19 outbreak, mostly through social media [5]. Therefore, establishment of reliable online resources with the capability of bidirectional communication to stockholders is necessary.

Topics such as preventative measures and vaccine effectiveness for COVID-19, updated information about new virus variants, the risk to older individuals and children, and up-to-date evidence-based information about disease monitoring and re-infection risk are the focus of questions that people routinely ask on social media. On the other hand, with respect to the unknown nature of these pandemic and potential subsequent outbreaks, healthcare guidelines should be updated for various settings.

The pandemic has challenged health-care systems by presenting new demands such as potential effectiveness of traditional medicine and new horizons on natural products against COVID-19 [6,7] however no specific strategy in term of infoveillance is available to respond these inquires.

The use of mobile technology and smartphones has been found to be effective in healthcare systems [8]. Mobile health apps are available in android-based and iOS-based app stores. Hundreds of surveillance and contact-tracing applications have been presented since emerging of the pandemic to carry out COVID-19 surveillance and tracking [9]. They have been used to identify cases suspected of being infected with COVID-19 and to take steps according to the local and international protocols where these apps are being deployed.

The COVO-CHAT app can be used on smartphones and tablets, and can work in offline and online modes, focusing mainly on online consultation with healthcare professionals from various medical specialties, in different languages or even in local accents, based on user selection. The main focus of this app could be clarifying queries concerning infodemics and providing medical advice. Aggregate reports could be presented to higher health authorities and to health-related policymakers.

Moreover, this app and its related web pages could be used by healthcare professionals for follow-up of users and may present the outcomes to healthcare centers and physicians with consideration of medical ethics principles and privacy of medical records.

To manage COVID-19 infodemic, recommended approach includes pre-emptive, ur-

¹MD, MPH, PhD, International Virtual Ophthalmic Research Center, Austin, TX, USA

*Corresponding author:
Reza Gharebaghi
International Virtual
Ophthalmic Research
Center, Austin, TX, USA
E-mail: drgharebaghi@
yahoo.com

Received: 12 February 2022
Accepted: 20 February 2022

gent, and long-term measures [4]. The first step should be a preventive approach, from limiting the spread or occurrence of rumors and fake news. Therefore, the educational content, based on recent studies and trials, could be offered in simple words in a separate dashboard in COVO-CHAT.

This app could establish online communication between healthcare professionals from various disciplines and end-users. Furthermore, tracing, mapping, and home-monitoring surveillance functions may be linked as additional functions. End-users may be informed about the latest healthcare measures and regulations, which are frequently changed by local officials. Using this approach, we consider that this platform can deliver the information for which the public are seeking.

The COVO-CHAT app may reduce unnecessary hospital visits, thus reducing the risk of disease in immunocompromised and high-risk cases, and may indirectly reduce the burden of disease in healthcare centers during outbreaks. Furthermore, with the recruitment of consultant pharmacists, end-users may receive general consultation about adverse drug reactions and drug interactions during the pandemic.

Advanced features, such as free installation, offline use, automated data entry, export the data to a file or share data with approved vendors, as well as a link to a reliable educational tool in different languages, and various medical field consultations would be advantages of the COVO-CHAT app.

Evidence from our setting suggests that the COVO-CHAT may be a cost-effective and time-saving app that could be efficiently leveraged to bridge the gap of expertise and to train healthcare workers, particularly during pandemics, although end-users may be charged monthly or on a subscription basis. Further studies are warranted to shed light on the suitability of this modern app.

Authors' Contribution

F. Heidary and R. Gharebaghi have the equal role in substantial contribution to the conception and design of the work, drafting and revising, final approval of the manuscript, and agreement to be accountable for all aspects of the work.

Conflict of Interest

None

References

1. Moulaei K, Bahaadinbeigy K, Ghaffaripour Z, Ghaemi MM. The Design and Evaluation of a Mobile based

Application to Facilitate Self-care for Pregnant Women with Preeclampsia during COVID-19 Prevalence. *J Biomed Phys Eng.* 2021;**11**(4):551-60. doi: 10.31661/jbpe.v0i0.2103-1294. PubMed PMID: 34458202. PubMed PMCID: PMC8385215.

2. Tangcharoensathien V, Calleja N, Nguyen T, Purnat T, et al. Framework for Managing the COVID-19 Infodemic: Methods and Results of an Online, Crowdsourced WHO Technical Consultation. *J Med Internet Res.* 2020;**22**(6):e19659. doi: 10.2196/19659. PubMed PMID: 32558655. PubMed PMCID: PMC7332158.
3. Eysenbach G. How to Fight an Infodemic: The Four Pillars of Infodemic Management. *J Med Internet Res.* 2020;**22**(6):e21820. doi: 10.2196/21820. PubMed PMID: 32589589. PubMed PMCID: PMC7332253.
4. Dash S, Paray AA, De Freitas L, Mithu MIH, Rahman MM, Ramasamy A, Pandya AK. Combating the COVID-19 infodemic: a three-level approach for low and middle-income countries. *BMJ Glob Health.* 2021;**6**(1):e004671. doi: 10.1136/bmjgh-2020-004671. PubMed PMID: 33514596. PubMed PMCID: PMC7849320.
5. Islam MS, Sarkar T, Khan SH, Mostofa Kamal AH, Hasan SMM, et al. COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. *Am J Trop Med Hyg.* 2020;**103**(4):1621-9. doi: 10.4269/ajtmh.20-0812. PubMed PMID: 32783794. PubMed PMCID: PMC7543839.
6. Boozari M, Hosseinzadeh H. Natural products for COVID-19 prevention and treatment regarding to previous coronavirus infections and novel studies. *Phytother Res.* 2021;**35**(2):864-76. doi: 10.1002/ptr.6873. PubMed PMID: 32985017.
7. Heidary F, Varnaseri M, Gharebaghi R. The Potential Use of Persian Herbal Medicines Against COVID-19 Through Angiotensin-Converting Enzyme 2. *Arch Clin Infect Dis.* 2020;**15**(COVID-19):e102838. doi: 10.5812/archcid.102838.
8. Lee S, Lee Y, Lee S, Islam SMS, Kim SY. Toward Developing a Standardized Core Set of Outcome Measures in Mobile Health Interventions for Tuberculosis Management: Systematic Review. *JMIR Mhealth Uhealth.* 2019;**7**(2):e12385. doi: 10.2196/12385. PubMed PMID: 30777847. PubMed PMCID: PMC6399569.
9. Ming LC, Untong N, Aliudin NA, Osili N, Kifli N, et al. Mobile Health Apps on COVID-19 Launched in the Early Days of the Pandemic: Content Analysis and Review. *JMIR Mhealth Uhealth.* 2020;**8**(9):e19796. doi: 10.2196/19796. PubMed PMID: 32609622. PubMed PMCID: PMC7505686.