

Fear of COVID-19 and the Media Influence on Herbal Medication Use in Uganda: A Cross-Sectional Study

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Background: The coronavirus disease-2019 (COVID-19) pandemic has created fear in people around the world. This has led to the widespread use of various herbal remedies in its prevention and treatment regardless of the paucity of scientific evidence about their safety and efficacy. This study assessed the fear of COVID-19 and the influence of media on the use of herbal medicine to prevent or treat COVID-19 in Uganda.

Methods: In the first 2 weeks of July 2021, a descriptive online cross-sectional study was carried out anonymously in the general population in Uganda. A validated questionnaire was used to collect data on herbal medicine use and the influence of media. Fear of COVID-19 was rated using the Fear of COVID-19 Scale (FCV-19S).

Results: We recruited 488 participants, 273 (55.9%) were female, with a median age of 25 (range: 18–73) years. Sixty-seven (57.8%) participants had a confirmed COVID-19 diagnosis. The mean FCV-19S score was 21.7 SD 5.9 with 53.3% reporting high levels of COVID-19 fear. About 57.4% of participants reported using herbal remedies either to prevent or treat COVID-19-like symptoms. Media was the main source of information, with more than 80% of the participants reporting seeing or accessing information about herbal medication use. Women (adjusted odds ratio (aOR): 1.74, 95% CI: 1.2–2.5, p=0.003) and people with a previously confirmed COVID-19 diagnosis (aOR: 3.1, 95% CI: 1.35–7.14, p=0.008) had a statistically significantly higher FCV-19S score. Being unemployed (aOR: 1.0, 95% CI: 1.1–2.3, p=0.008) and a female (aOR: 1.0, 95% CI: 1.1–2.3, p=0.012) were statistically significantly associated with herbal medicine use. Participants who used herbal remedies had a higher median FCV-19S score compared to non-users (23 versus 21, p<0.001).

Conclusion: The use of herbal medicines to treat or prevent COVID-19 is a widespread practice among the general population in Uganda amidst the high levels of fear of COVID-19.

Keywords: COVID-19, fear, media, herbal medicine, health awareness, Uganda

Introduction

The coronavirus disease-2019 (COVID-19) pandemic has affected over 190 million people with over 4.2 million deaths worldwide at the time of writing.¹ Uganda has so far suffered two waves of COVID-19 with the most recent associated with a highly infectious strain leading to over 93,000 cases and 2690 deaths as of 1st August 2021.¹

Globally, about 80% of the population is estimated to rely on herbal medicines for disease prevention and as alternative/complementary medicine.² Some of these have been approved and/or recommended for use by health professionals in the

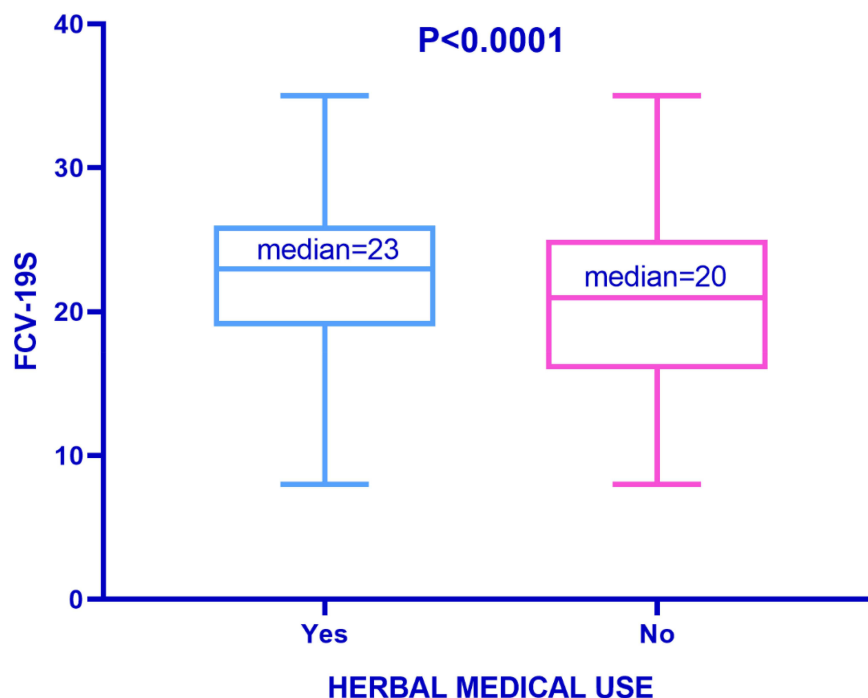


Figure 2 Fear of COVID-19 score stratified by herbal medicine use.

Data Sharing Statement

The data used to support the results of the research are available from the corresponding author upon request.

Author Contributions

All authors made substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data, took part in drafting the article or revising it critically for important intellectual content, agreed to submit to the current journal, gave final approval to the version to be published, and agree to be accountable for all aspects of the work.

Funding

Research reported in this publication was supported by the Fogarty International Center of the National Institutes of Health, US Department of State's Office of the US Global AIDS Coordinator and Health Diplomacy (S/GAC), and President's Emergency Plan for AIDS Relief (PEPFAR) under Award Number 1R25TW011213. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.

Disclosure

The authors declare no potential conflicts of interest in this work.

References

1. Worldometer. Coronavirus mortality rate (COVID-19) – worldometer; 2020. Available from: <https://www.worldometers.info/>. Accessed September 13, 2021.
2. Woo CSJ, Lau JSH, El-Nezami H. Herbal medicine: toxicity and recent trends in assessing their potential toxic effects. *Adv Bot Res*. 2012;62:365–384.
3. Kiconco A. Uganda national drug authority approves COVIDEX local herb medicine | Kampala International University, Uganda. KIU News; 2021 [cited September 6 2021]. Available from: <https://kiu.ac.ug/news-page.php?i=uganda-national-drug-authority-approves-covidex-local-herb-medicine>. Accessed September 13, 2021.
4. Alyami HS, Orabi MAA, Aldhabbah FM, et al. Knowledge about COVID-19 and beliefs about and use of herbal products during the COVID-19 pandemic: a cross-sectional study in Saudi Arabia. *Saudi Pharm J*. 2020;28(11):1326–1332. doi:10.1016/j.jsps.2020.08.023
5. Ahmad AR, Murad HR. The impact of social media on panic during the COVID-19 pandemic in Iraqi Kurdistan: online questionnaire study. *J Med Internet Res*. 2020;22(5):e19556. doi:10.2196/19556
6. Saud M, Mashud M, Ida R. Usage of social media during the pandemic: seeking support and awareness about COVID-19 through social media platforms. *J Public Aff*. 2020;20(4):e2417.
7. de Hoog N, Stroebe W, de Wit JBF. The processing of fear-arousing communications: how biased processing leads to persuasion. *Soc Infl*. 2008;3(2):84–113.
8. Angus Reid Institute. *Half of Canadians Taking Extra Precautions as Coronavirus Continues to Spread Around the Globe*. Angus Reid Institute; 2020.
9. Gerhold L. *COVID-19: Risk Perception and Coping Strategies. Results from a Survey in Germany*. Interdisciplinary Security Research Group; 2020.
10. Aubrey A. *Poll: Most Americans Say US “Doing Enough” to Prevent Coronavirus Spread*. National Public Radio; 2020.

11. Mamun MA, Griffiths MD. First COVID-19 suicide case in Bangladesh due to fear of COVID-19 and xenophobia: possible suicide prevention strategies. *Asian J Psychiatr.* 2020;51:102073. doi:10.1016/j.ajp.2020.102073
12. Goyal K, Chauhan P, Chhikara K, Gupta P, Singh MP. Fear of COVID 2019: first suicidal case in India! *Asian J Psychiatr.* 2020;49:101989. doi:10.1016/j.ajp.2020.101989
13. Şimşir Z, Koç H, Seki T, Griffiths MD. The relationship between fear of COVID-19 and mental health problems: a meta-analysis. *Death Stud.* 2021; 1–9. doi:10.1080/07481187.2021.1889097
14. Alotiby A. The impact of media on public health awareness concerning the use of natural remedies against the COVID-19 outbreak in Saudi Arabia. *Int J Gen Med.* 2021;14:3145–3152. doi:10.2147/IJGM.S317348
15. Nguyen PH, De Tran V, Pham DT, Dao TNP, Dewey RS. Use of and attitudes towards herbal medicine during the COVID-19 pandemic: a cross-sectional study in Vietnam. *Eur J Integr Med.* 2021;44:101328. doi:10.1016/j.eujim.2021.101328
16. Abdullah Alotiby A, Naif Al-Harbi L. Prevalence of using herbs and natural products as a protective measure during the COVID-19 pandemic among the Saudi population: an online cross-sectional survey. *Saudi Pharm J.* 2021;29(5):410–417. doi:10.1016/j.jsps.2021.04.001
17. Reznik A, Gritsenko V, Konstantinov V, Khamenka N, Isralowitz R. COVID-19 fear in Eastern Europe: validation of the fear of COVID-19 scale. *Int J Ment Health Addict.* 2020. doi:10.1007/s11469-020-00283-3
18. Midorikawa H, Aiba M, Lebowitz A, et al. Confirming validity of the fear of COVID-19 scale in Japanese with a nationwide large scale sample. *PLoS One.* 2021;16(2):e0246840. doi:10.1371/journal.pone.0246840
19. Huaracaya-Victoria J, Villarreal-Zegarra D, Podestà A, Luna-Cuadros MA. Psychometric properties of a Spanish version of the fear of COVID-19 scale in general population of Lima, Peru. *Int J Ment Health Addict.* 2020. doi:10.1007/s11469-020-00354-5
20. Martínez-Lorca M, Martínez-Lorca A, Criado-álvarez JJ, Armesilla MDC, Latorre JM. The fear of COVID-19 scale: validation in Spanish university students. *Psychiatry Res.* 2020;293:113350. doi:10.1016/j.psychres.2020.113350
21. Mahmood QK, Jafree SR, Qureshi WA. The psychometric validation of FCV19S in Urdu and socio-demographic association with fear in the People of the Khyber Pakhtunkhwa (KPK) Province in Pakistan. *Int J Ment Health Addict.* 2020. doi:10.1007/s11469-020-00371-4
22. Perz CA, Lang BA, Harrington R. Validation of the fear of COVID-19 scale in a US college sample. *Int J Ment Health Addict.* 2020. doi:10.1007/s11469-020-00356-3
23. Fitzpatrick KM, Harris C, Drawve G. Fear of COVID-19 and the mental health consequences in America. *Psychol Trauma Theory Res Pract Policy.* 2020;12:S17–S21. doi:10.1037/tra0000924
24. Halser G. Pathophysiology of depression: do we have any solid evidence of interest to clinicians? *World Psychiatry.* 2010;9:155.
25. Andrade EF, Pereira LJ, de Oliveira APL, et al. Perceived fear of COVID-19 infection according to sex, age and occupational risk using the Brazilian version of the fear of COVID-19 scale. *Death Stud.* 2020;1–10. doi:10.1080/07481187.2020.1809786
26. Colizzi M, Bortoletto R, Silvestri M, et al. Medically unexplained symptoms in the times of COVID-19 pandemic: a case-report. *Brain Behav Immun Health.* 2020;5:100073.
27. Ornell F, Schuch JB, Sordi AO, Kessler FHP. “Pandemic fear” and COVID-19: mental health burden and strategies. *Braz J Psychiatry.* 2020;42:232–235. doi:10.1590/1516-4446-2020-0008
28. Heiat M, Heiat F, Halaji M, et al. Phobia and Fear of COVID-19: origins, complications and management, a narrative review. *Ann Ig.* 2021;33(4):360–370.
29. Kwok KO, Li KK, Chan HHH, et al. Community responses during early phase of COVID-19 epidemic, Hong Kong. *Emerg Infect Dis.* 2020;26(7):1575–1579. doi:10.3201/eid2607.200500
30. Al-Rahimi JS, Nass NM, Hassoubah SA, Wazqar DY, Alamoudi SA, Menezes RG. Levels and predictors of fear and health anxiety during the current outbreak of COVID-19 in immunocompromised and chronic disease patients in Saudi Arabia: a cross-sectional correlational study. *PLoS One.* 2021;16(4):e0250554. doi:10.1371/journal.pone.0250554
31. Bing. Health seeking behaviour and challenges in utilising health facilities in Wakiso district, Uganda; [cited August 1, 2021]. Available from: <https://www.bing.com/search?q=Health+seeking+behaviour+and+challenges+in+utilising+health+facilities+in+Wakiso+district%2C+Uganda&cvid=00a8bebc10a94d1faf5d8b6dd3e40ccb&aqs=edge.69i57.567j0j9&FORM=ANAB01&PC=U531>. Accessed September 13, 2021.

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