





Self-medication due to COVID-19 symptoms in rotating Nursing interns

Automedicación por síntomas de COVID-19 en internos rotativos de Enfermería

Automedicação por sintomas de COVID-19 em internos de Enfermagem em rodízio

ZulyRivelNazate-Chuga^{1*} , Alexandra Roxana Rebolledo-Solis¹ , AlexandraPatricia Abata-Erazo¹ ,
ReudisDurán-Rodríguez² 

¹Universidad Regional Autónoma de los Andes. Ecuador.

²Universidad de Ciencias Médicas de Guantánamo. Guantánamo, Cuba.

*Corresponding author: ut.zulynazate@uniandes.edu.ec

Received: 07-03-2023 Accepted: 13-04-2023 Published: 19-04-2023

ABSTRACT

Introduction: self-medication can generate adverse reactions, drug interactions, delay and failure in the diagnosis of the disease, resistance to antibiotics and loss of health resources. During the COVID-19 pandemic, it is reported that the frequency of adverse reactions due to self-medication has doubled. **Objective:** to identify the various causes and factors that affect self-medication by COVID-19 in rotating Nursing interns at the Hospital General "Luis Gabriel Dávila" in Tulcán, Ecuador. **Method:** a descriptive-analytical-correlational cross-sectional study was carried out on self-medication in 64 rotating Nursing interns of said institution in the period 2020-2021. Methods were used: empirical, analytical-synthetic, inductive-deductive, historical-logical level. The questionnaire was the technique applied to characterize the current state. The collected data was exported to Microsoft Excel v.2013. **Results:** 50.3% of nursing inmates took frequent medication, 60.9% self-medicated with analgesics in the

presence of symptoms due to COVID-19. 29.7% presented sore throat as a symptom of COVID-19, followed by fever with 26.5%. 78.1% used the oral route. 55.0% of these inmates always had free access to medications in their rotations; which prompted 42.2% to self-medication. **Conclusions:** the results obtained serve to characterize the problem of self-medication by COVID-19 in university students and provide information for the formulation of strategies that reduce its negative impact. The university and health authorities must dedicate efforts to the problem of self-medication by COVID-19, since it is a public health problem worldwide.

Keywords: self-medication; symptoms; complications; rotary internals; COVID-19; nursing

RESUMEN

Introducción: la automedicación puede generar reacciones adversas, interacciones medicamentosas, retraso y fallo en el diagnóstico de la enfermedad, resistencia a los antibióticos y pérdida de recursos sanitarios. Durante la pandemia por COVID-19 se reporta que la frecuencia de reacciones adversas por automedicación se ha duplicado. **Objetivo:** identificar las diversas causas y factores que inciden en la automedicación por COVID-19 en internos rotativos de Enfermería, del Hospital General "Luis Gabriel Dávila" de Tulcán, Ecuador. **Método:** se realizó un estudio transversal descriptivo-analítico-correlacional, sobre la automedicación en 64 internos rotativos de Enfermería de dicha institución en el periodo 2020-2021. Se utilizaron los métodos: del nivel empírico, analítico-sintético, inductivo-deductivo, histórico-lógico. El cuestionario fue la técnica aplicada para caracterizar el estado actual. Los datos recolectados se exportaron a Microsoft Excel v.2013. **Resultados:** el 50,3 % de los internos de Enfermería se medicaron de forma frecuente, el 60,9 % se automedicó con analgésicos ante la presencia de síntomas por COVID-19. El 29,7 % presentó dolor de garganta como sintomatología de COVID-19, seguido por fiebre con el 26,5 %. El 78,1 % utilizó la vía oral. El 55,0 % de estos internos siempre tuvo libre acceso a los medicamentos en sus rotaciones; lo que incitó al 42,2 % a la automedicación. **Conclusiones:** los resultados obtenidos sirven para caracterizar la problemática de la automedicación por COVID-19 en estudiantes universitarios y brindar información para el planteamiento de estrategias que reduzcan su impacto negativo. Las autoridades universitarias y sanitarias deben dedicar esfuerzos ante la problemática de la automedicación por COVID-19, dado que es un problema de salud pública a nivel mundial.

Palabras claves: automedicación; síntomas; complicaciones; internos rotativos; COVID-19; Enfermería

RESUMO

Introdução: a automedicação pode gerar reações adversas, interações medicamentosas, atraso e falha no diagnóstico da doença, resistência a antibióticos e perda de recursos de saúde. Durante a pandemia de COVID-19, foi relatado que a frequência de reações adversas devido à automedicação dobrou. **Objetivo:** identificar as várias causas e fatores que afetam a automedicação por COVID-19 em internos de enfermagem rotativos no Hospital General "Luis Gabriel Dávila" em Tulcán, Equador. **Método:** realizou-se um estudo transversal descritivo-analítico-correlacional sobre a automedicação em 64 internos rotativos de Enfermagem da referida instituição no período 2020-2021. Os métodos utilizados foram: nível empírico, analítico-sintético, indutivo-dedutivo, histórico-lógico. O questionário foi a técnica aplicada para caracterizar o estado atual. Os dados coletados foram exportados para o Microsoft Excel v.2013. **Resultados:** 50,3% dos reclusos de Enfermagem tomavam medicação frequente, 60,9% automedicavam-se com analgésicos na presença de sintomas devido à COVID-19. 29,7% apresentaram dor de garganta como sintoma de COVID-19, seguido de febre com 26,5%. 78,1% utilizaram a via oral. 55,0% desses internos sempre tiveram livre acesso a medicamentos em seus rodízios; o que levou 42,2% à automedicação. **Conclusões:** os resultados obtidos servem para caracterizar o problema da automedicação por COVID-19 em estudantes universitários e fornecer informações para a formulação de estratégias que reduzam seu impacto negativo. A universidade e as autoridades de saúde devem dedicar esforços ao problema da automedicação por COVID-19, uma vez que é um problema de saúde pública mundial.

Palavras-chave: automedicação; sintomas; complicaciones; internos rotativos; COVID 19; enfermagem

How to cite this article:

Nazate-Chuga ZR, Rebolledo-Solis AR, Abata-Eraza AP, Durán-Rodríguez R. Self-medication due to COVID-19 symptoms in rotating Nursing interns. RevInfCient.2023; 102:4218. DOI: <https://doi.org/10.5281/zenodo.7843562>



INTRODUCTION

Self-medication generates risks to people's health, which can lead to adverse reactions, drug-drug interactions, delay and failure in the diagnosis of the disease, antibiotic resistance and loss of health resources.^(1,2) On the other hand, it is suggested that the pandemic of coronavirus disease (COVID-19) is a scenario where these problems may be more frequent due to an increase in the demand for drugs by the population.⁽³⁾ This last statement is exemplified in a study conducted during the pandemic where it is reported that the frequency of adverse reactions due to self-medication has doubled.⁽⁴⁾

Due to this problem, some studies evaluated the impact of the COVID-19 pandemic on the self-medication practices of the population. In Poland, it was observed that during the quarantine the number of people who started to self-medicate increased despite never having done so before.⁽⁵⁾ Likewise, in Uganda, a 57% proportion of self-medication in the general population was reported⁽⁶⁾; while in Sri Lankan universities, 78.0% of university students self-medicated.⁽⁷⁾ Similar was the case in a city in Peru, where 51.3% of health science students self-medicated with drugs related to COVID-19.⁽⁸⁾

In view of the fact that self-medication represents a public health problem worldwide due to its consequences both in health professionals as well as in the general population, Ecuador is not exempt from this problem; for such reasons it is proposed in the 2030 Agenda for Sustainable Development in goal 3, to ensure healthy lives and promote well-being for all at all ages, highlighting that many more initiatives are needed to completely eradicate a wide range of diseases and address numerous and varied persistent and emerging health issues.⁽⁹⁾

According to the Development and Territorial Ordering Plan of the province of Carchi, social management is prioritized through the implementation of policies and guidelines focused on improving the quality of life of the population, through the promotion and encouragement of social welfare, in such a way, as to ensure the achievement of an adequate quality of life for all the inhabitants of the province.⁽¹⁰⁾

Given the situation of nursing intern students incurring in this error of self-medication by suspicion of COVID-19 in the province, the project aims to contribute to the health of these interns through the prevention of diseases triggered by self-medication that is still present in this group.

Thus, it highlights the importance of preserving the health and well-being of all people through the prevention and care of diseases, highlighting within this project the reduction of self-medication in rotating nursing interns and the misuse of medicines, in order to avoid possible complications.



Policy 7 of the Development and Territorial Planning Plan of CantónTulcán seeks to "strengthen the institutional framework, comprehensive health care services, and establish protocols and inter-institutional care routes for prevention and restitution of rights with cultural generational relevance⁽¹¹⁾; It works for the improvement of integral care in health services since it seeks access for all people and to improve the quality of life, so it seeks to strengthen care protocols to ensure that rotating nursing interns who self-medicate, go to medical appointments in the different health centers offered, in order to preserve their health.

This research was carried out with the objective of verifying the different causes and factors that affect the self-medication of rotating nursing interns, in order to obtain data to determine the real situation and provide a solution through an educational plan.

METHOD

A descriptive-analytical-correlational cross-sectional study was carried out, which allowed the collection of information on self-medication during the course of the COVID-19 disease in rotating nursing interns of the General Hospital "Luis Gabriel Dávila" of Tulcán, Ecuador, in a systematic, valid, reliable and intentional way, fundamental, with the objective of verifying the diverse causes and factors that affect self-medication in these interns.

The population consisted of 64 rotating nursing interns who are in their internship year at the aforementioned institution.

The following methods were used: empirical, analytical-synthetic, inductive-deductive and historical-logical. The questionnaire applied by means of closed questions (Complementary data at the end) allowed obtaining accurate information on an individual basis, necessary to determine the current status of the rotating nursing interns who are in their internship year at this hospital.

The data collected were exported to Microsoft Excel v.2013, where data quality control was performed (6 questionnaires were excluded for presenting inconsistent information) and statistical analysis was performed in the statistical program Stata v.14.

Frequencies and percentages were described for categorical variables, measures of central tendency and dispersion for numerical variables (after assessment of normality) and graphs were made to observe the characteristics of some variables.

The outcome of this study was self-medication with at least one of the 14 drugs evaluated (no/yes). First, an association was performed to observe the characteristics of the categorical variables and the outcome with the chi-square test.

Subsequently, prevalence ratios, their confidence intervals and p-values were calculated using generalized linear models, Poisson family, log link function, robust models. We worked with a 95% confidence level; taking p-values lower than 0.05 as significant.



The research project had the approval of the Ethics Committee of the Universidad Carchi and the Hospital "Luis Gabriel Dávila" of Tulcán where the 64 interns of the study rotated. Prior to the execution of the questionnaire, informed consent was requested from the participants, explaining the objectives, usefulness, benefits and risks of their participation. The consent form included contact information for the main author for those participants who had any doubts about the questionnaire or their participation. The data were collected anonymously, respecting the ethical precepts for scientific research.

RESULTS

In the questionnaire applied to the nursing students of the rotating internship, it was found that the highest percentage of the surveyed population indicated that self-medication for COVID-19 symptoms was frequent, representing 50.3% of the proposed alternatives.

Among the medications that these nursing interns used most frequently when they presented COVID-19 symptoms were analgesics and antibiotics, with 60.9% and 23.4%, respectively.

On the other hand, they reported rarely (37%) attending medical check-ups when they presented some of the symptoms of some disease and, specifically, of COVID-19; however, these students presented a high knowledge (40.6%) on the safe practice of medications learned in their professional training, which means a good professional training.

The 29.7% agreed that their self-medication was for presenting sore throat as the first symptomatology and, 26.5%, for presenting fever. Fifty-five percent of them always had free access to medicines during their rotating internship.

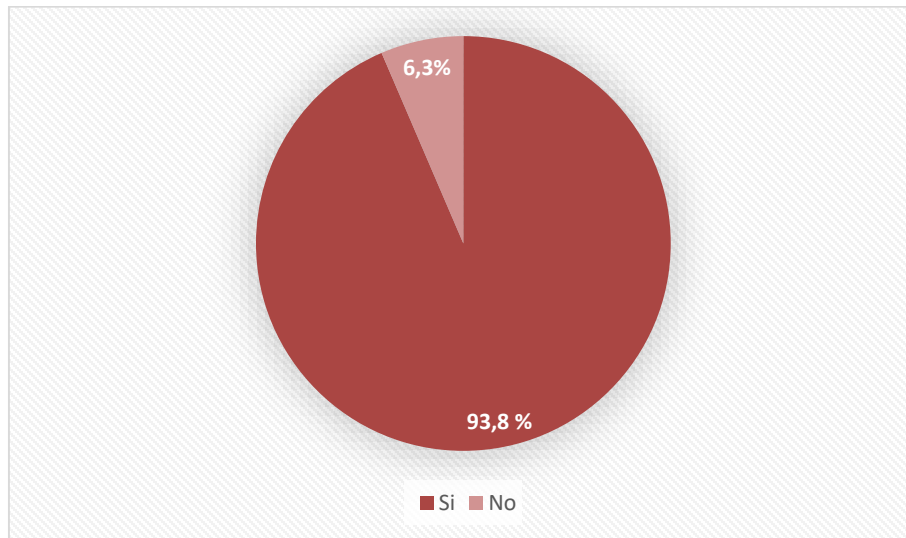
Among the factors contributing to self-medication, easy access to medicines was highlighted (42.2%), while 32.8% claimed not to have enough time to attend medical consultations. Among the difficulties in attending these consultations, they mentioned the work schedule (50%) and the delays (32.8%).

Slightly less than half of the rotating nursing interns surveyed (43.8 %) argued that this practice of self-medication had caused them to mask their illnesses, followed by those who had not presented any complications (21.9 %) and those who presented resistance to antibiotics (18.8 %). A total of 15.6 % reported dependence.

Despite knowing the routes of administration, side effects and adverse reactions of the drugs, 78.1% preferred to use the oral route for self-medication.

In the implementation of an educational plan for the prevention of self-medication among the rotating nursing interns (Figure 1), 93.8% agreed, which is a point in favor of the research since it demonstrates the commitment towards its development on the part of the people who will be part of the research, which is why the design, application and follow-up may have greater results.





Graph 1 Agreement for the implementation of an educational plan for the prevention of self-medication among rotating nursing interns.

DISCUSSION

The self-medication of the students of the rotating internship at the General Hospital "Luis Gabriel Dávila" of Tulcán was quite high compared to other studies such as that of Rojas, et al.⁽¹²⁾ who obtained a low sample, however, it coincides with what was found in this study regarding the most frequent reasons for sore throat, fever and prevention of illness.

The most consumed medications in the comparative study were paracetamol, aspirin and anti-influenza drugs. In addition, those who self-medicated with aspirin, ivermectin, dexamethasone and chlorine dioxide attributed side effects after consumption. The perception that self-medication is harmful to health and having physicians as a source of drug information, was associated with less self-medication by COVID-19.

In Nigeria, it is reported that 41.0 % of a certain population self-medicated to prevent or treat COVID-19, while in a city in Togo, 34.2 % did so to prevent it.^(13,14) The difference with these reports may be due to the fact that the present study only evaluated a young population, which tends to have less severe COVID-19⁽¹⁵⁾ and, therefore, may perceive less need to resort to self-medication for the disease.

On the other hand, a study on self-medication carried out in health sciences students from other Peruvian universities reports a proportion of 51.3%. This may be due to the fact that this study evaluated drugs related to COVID-19, but did not directly ask whether self-medication was performed for this disease.⁽⁸⁾ Furthermore, it states that the faculties with the lowest self-medication are health sciences and agricultural sciences, which may be due to the fact that both provide training on the problems related to self-medication such as bacterial resistance, the risk of adverse effects and the biological-chemical principles of drugs.

Sadio, et al.⁽¹³⁾ in their study plan that, approximately one third of students who self-medicate do so to prevent COVID-19. This finding is similar to that reported in another study, where 34.2 % of the general population self-medicated to prevent the disease. Zhang, et al.⁽¹⁶⁾ explain that it may be the distress generated by the pandemic, which may predispose people to resort to desperate measures such as self-medication to prevent the disease. Some reasons could include fear of the stigmatization that the disease may bring, fear of being placed in quarantine, or fear of becoming infected due to proximity to a suspected contact.⁽¹⁵⁾

The medication with which the students self-medicated the most was analgesics, which may be explained by the fact that they are easily accessible to the population and their use is recommended for the symptomatic treatment of COVID-19, similar to that found by Llover, et al.⁽¹⁷⁾ Other medications consumed are ivermectin, hydroxychloroquine and chlorine dioxide, which may be due to the presumed preventive and therapeutic properties attributed to them for COVID-19 by health and political authorities. For example, ivermectin and hydroxychloroquine were allowed to be used at medical discretion by the Peruvian Ministry of Health (MINSA) at the beginning of the pandemic,⁽¹⁸⁾ while chlorine dioxide was proposed as a possible addition to the COVID-19 management protocol by politicians.⁽¹⁹⁾ All this, despite the absence of solid scientific evidence to support its use against this disease.

Likewise, other drugs consumed were antibiotics, which may be due to the misinformation of the population regarding their proper use, the anguish generated by the pandemic may motivate additional protective measures such as the use of antibiotics and the easy access to this type of drugs.⁽¹⁶⁾

Miñan-Tapia, et al.⁽⁸⁾ state that approximately one in five students who self-medicated attributed side effects after taking certain medications. Similarly, another study reports a figure of one in ten students. The presentation of side effects related to self-medication by COVID-19 seems to be a frequent event among students of the rotating internship at the "Luis Gabriel Dávila" Hospital of Tulcán; however, these data were collected through surveys.

Sulca Clemente⁽²⁰⁾ in his report states that poverty is one of the results of this situation and the lack of resources makes users look for an accessible solution for their health needs, one of them being self-medication. Unemployment, which is closely linked to the above, is another reason why there is no adequate access to healthcare, as people's priorities also change. The increase in population means that resources become limited in the field of health and are depleted at a faster rate and do not match the growth of the demographic pyramid.



Having the highest percentage of respondents agree with the implementation of the educational plan, which consists of all forms that can be carried out in the educational field, either from the highest governmental ranks, to the plans that the operator can project to the population, is a point in favor of the research as it demonstrates the commitment to its development by the people who will be part of the research, which is why both the design and implementation and monitoring may have greater results.

These health education plans are aimed at effective health prevention, which are of great importance for the population due to social, economic, physical and medical factors. Health promotion and intensive comprehensive prevention activities should begin in childhood and continue throughout all stages of life, taking into account that health is closely linked to the general health and wellbeing of each person.⁽²¹⁾

CONCLUSIONS

The results obtained serve to characterize the problem of COVID-19 self-medication in university students and provide information for the development of strategies to reduce its negative impact. University and health authorities should devote efforts to the problem of COVID-19 self-medication, given that it is a worldwide public health problem.

RECOMMENDATIONS

It is suggested to apply remote educational programs in different provinces of the country, at the level of the different health networks, linked to the research project and the "2030 Agenda for Sustainable Development", to improve the health problems derived from self-medication, to somehow support them and achieve the respect and fulfillment of their rights, through the design of an educational plan to raise awareness among the population under study about the importance of not self-medicating.

REFERENCES

1. Montastruc JL, Bondon-Guitton E, Abadie D, Lacroix I, Berreni A, Pugnet G, *et al.* Pharmacovigilance, risks and adverse effects of self-medication. *Therapie*[Internet]. 2016[cited 25 Ene2023]; 71(2):257-62. DOI: <https://doi.org/10.1016/j.therap.2016.02.012>
2. Bennadi D. Self-medication: A current challenge. *J Basic ClinPharm*[Internet]. 2013[cited 25 Ene 2023]; 5(1):19-23. DOI: <https://doi.org/10.4103%2F0976-0105.128253>
3. Romano S, Galante H, Figueira D, Mendes Z, TexeiraRodrigues A. Time-trend analysis of medicine sales and shortages during COVID-19 outbreak: Data from community pharmacies. *Res Soc Adm Pharm* [Internet]. 2021[cited 25 Ene 2023]; 17(1):1876-1881. DOI:



- <https://doi.org/10.1016/j.sapharm.2020.05.024>
4. Gras M, Gras-Champel V, Moragny J, Delaunay P, Laugier D, Masmoudi K, *et al.* Impact of the COVID-19 outbreak on the reporting of adverse drug reactions associated with self-medication. *Ann Pharm Fr*[Internet]. 2021[cited 25 Ene 2023]; 79(5):522-529. DOI: <https://doi.org/10.1016/j.pharma.2021.02.003>
 5. Makowska M, Boguszewki R, Nowakowski M, Podkowińska M. Self-Medication-Related Behaviors and Poland's COVID-19 Lockdown. *Int J Environ Res Public Health*[Internet]. 2020[cited 25 Ene 2023];17(22):8344. DOI: <https://doi.org/10.3390/ijerph17228344>
 6. Dare SS, Eze ED, Echoru I, Usman IM, Ssempijja F, Bukonya EE, *et al.* COVID-19 Pandemic and Behavioural Response To Self-Medication Practice In Western Uganda. [Internet]. *MedRxiv*[Preprint]. 2021 2020 [acceso 25 Jul 2021], DOI: <https://doi.org/10.1101/2021.01.02.20248576>
 7. Subashini N, Udayanga L. Demographic, socio-economic and other associated risk factors for self-medication behaviour among university students of Sri Lanka: a cross sectional study. *BMC Public Health*[Internet]. 2020[cited 25 Ene 2023];20(1):613. DOI: <https://doi.org/10.1186/s12889-020-08622-8>
 8. Miñan-Tapia A, Conde-Escobar A, Calderon-Arce D, Cáceres-Olazo D, Peña-Rios AJ, Donoso-Romero RC. Factores asociados a la automedicación con fármacos relacionados a COVID-19 en estudiantes de ciencias de la salud de una ciudad peruana[Internet]. *SciELOPreprint* [Preprint]. 2020 [acceso 25 Jul 2021]. Available at: <https://doi.org/10.1590/SciELOPreprints.1225>
 9. Naciones Unidas. La Agenda 2030 y los Objetivos de Desarrollo Sostenible: una oportunidad para América Latina y el Caribe. 2018 [cited 28 Oct 2022];93. Available at: https://repositorio.cepal.org/bitstream/handle/11362/40155/24/S1801141_es.pdf
 10. Morales-Ysuhuaylas JL, Peralta-Ugarte E. Automedicación responsable en estudiantes de Ciencias de la Salud, Universidad Nacional Hermilio Valdizán. *Revista Peruana de Investigación en Salud* [Internet]. 30 de enero de 2019 [cited 27 Oct 2022];3(1):25-9. Available at: <https://doi.org/10.35839/repis.3.1.251>
 11. GAD Municipal de Tulcán. Plan de Desarrollo y Ordenamiento Territorial Canton Tulcán. PDOT. Tulcán: Municipio de Tulcán, Departamento de Planificación. Available at: <https://bit.ly/3omWOP7>
 12. Rojas Miliano C, Galarza Cáceres DN, Zárate Vargas AM, Araujo Ramos G, Rosales Guerra J, Quiñones Laveriano DM. Características y factores asociados a la automedicación por COVID-10 en estudiantes de una universidad peruana. *Rev. Cubana Farmacia*[Internet]. 2022 [cited 25 Ene 2023]; 55(1):e712. Available at: <https://revfarmacia.sld.cu/index.php/far/article/view/712>
 13. Sadio AJ, Gbeasor-Komlanvi FA, Konu RY, Bakoubayi AW, Tchankoni MK, Bitty-Anderson AM, *et al.* Assessment of self-medication practices in the context of the COVID-19 outbreak in Togo. *BMC Public Health*[Internet]. 2021[cited 25 Ene 2023]; 21(1):58. DOI: <https://doi.org/10.1186/s12889-020-10145-1>
 14. Wegbom AI, Edet CK, Raimi O, Fagbamigbe AF, Kiri VA. Self-Medication Practices and Associated Factors in the Prevention and/or Treatment of COVID-19 Virus: A Population-Based Survey in Nigeria. *Front Public*



- Health[Internet]. 2021[cited 25 Ene 2023];9:606801. DOI: <https://doi.org/10.3389/fpubh.2021.606801>
15. Zhang A, Hobman EV, De Barro P, Young A, Carter DJ, Byrne M. Self-medication with antibiotics for protection against COVID-19: the role of psychological distress, knowledge of, and experiences with antibiotics. *Antibiotics (Basel)* [Internet]. 2021 [cited 25 Ene 2023]; 10(3):232. DOI: <https://doi.org/10.3390/antibiotics10030232>
 16. Gautret P, Million M, Jarrot PA, Camoin-Jau L, Colson P, Fenollar F, *et al.* Natural history of COVID-19 and therapeutic options. *Expert Rev Clin Immunol*[Internet]. 2020[cited 25 Ene 2023]; 16(12):1159-84. DOI: <https://doi.org/10.1080/1744666x.2021.1847640>
 17. Llover MN, Jiménez MC. Estado actual de los tratamientos para la COVID-19. *FMC*[Internet]. 2021[cited 25 Ene 2023];28(1):40-56. DOI: <https://doi.org/10.1016%2Fj.fmc.2020.10.005>
 18. Ministerio de Salud. Plataforma digital única del Estado Peruano. Prevención, diagnóstico y tratamiento de personas afectadas por COVID-19 en el Perú. Lima: MINSa; 2020 [acceso 25/07/2021]. Available at: <https://www.gob.pe/institucion/minsa/informes-publicaciones/473587-prevencion-diagnostico-y-tratamiento-de-personas-afectadas-por-covid-19-en-el-per>
 19. Mostajo-Radji MA. Pseudoscience in the times of crisis: how and why chlorine dioxide consumption became popular in Latin America during the COVID-19 pandemic. *Front PolitSci*[Internet]. 2021[cited 25 Ene 2023];3. DOI: <https://doi.org/10.3389/fpos.2021.621370>
 20. SulcaClemente EM. Nivel de conocimientos sobre automedicación y sus factores de riesgos en estudiantes de ciencias de la salud de la Universidad Nacional Universidad Nacional "San Luis Gonzaga", 2020. Tesis posgrado. ICA, Facultad De Farmacia Y Bioquímica. Available at: <https://hdl.handle.net/20.500.13028/3377>
 21. Martínez Menchaca H, Treviño Alanís G, Rivera Silva G. Guía para el cuidado de la salud oral de pacientes con necesidad de cuidados especiales de salud en México. *Rev ADM*[Internet]. 2011[cited 5 May 2021]; 68(5):222-228. Available at: <https://www.medigraphic.com/pdfs/adm/od-2011/od115d.pdf>



Conflict of interest

The authors declare that there were no conflicts of interest in this research.

Authors' contribution:

Conceptualization: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo.

Data curation: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo.

Formal analysis: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, ReudisDurán-Rodríguez.

Research: ZulyRivelNazate-Chuga, ReudisDurán-Rodríguez.

Methodology: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo, ReudisDurán Rodríguez.

Project administration: ZulyRivelNazate-Chuga.

Supervision: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo.

Validation: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, ReudisDurán-Rodríguez.

Visualization: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo.

Original drafting and editing: ZulyRivelNazate-Chuga.

Writing-revision and editing: ZulyRivelNazate-Chuga, Alexandra Roxana Rebolledo-Solis, Alexandra Patricia Abata-Erazo, ReudisDurán-Rodríguez.

Financing:

The authors did not receive funding for the development of the present research.

Complementary file (Open Data):

[Questionnaire on self-medication for COVID-19 symptoms in rotating nursing interns](#)