revista de pesquisa ISSN 2175-5361

CUIDADO É FUNDAMENTAL

Escola de Enfermagem Alfredo Pinto – UNIRIO

RESEARCH DOI: 10.9789/2175-5361.rpcfo.v14.11438

THEORETICAL CONTENT OF A MOBILE APPLICATION ON COVID-19: CONTRIBUTIONS FROM HEALTHCARE STUDENTS

Conteúdo teórico de um aplicativo móvel sobre COVID-19: contribuições de acadêmicos da área da saúde

Contenido teórico de una aplicación móvil sobre COVID-19: contribuciones de los académicos sanitarios

Layanne Fonseca Pinto[1]
Aline Cerqueira Santos Santana da Silva[1]
Fernanda Garcia Bezerra Góes[1]
Michelly Cristynne Souza Bonifácio[1]
Yasminn Canella Cabral Banjar Coelho[1]
Maithê de Carvalho e Lemos Goulart[1]

ABSTRACT

Objective: to identify questions from academics in the health area about COVID-19 for the composition of the theoretical content of a mobile application. **Method:** qualitative research, developed in the state of Rio de Janeiro, in July 2020, through an electronic form with health academics, whose data were processed in the software *Interface de R pour Analyses Multidimensionnelles de Textes Et de Questionnaires*. **Results:** the doubts of academics in the health area about COVID-19 that subsidized the composition of the content of the mobile application, dealt with: forms of contagion, disease transmission chain, signs and symptoms, contagion and prevention, in addition to the front treatment to COVID-19. **Conclusion:** the identification of themes for the composition of the mobile application from the perspective of academics in the health field, will enable its use as an educational technology in the health field, promoting changes in attitudes, autonomy, in addition to favoring decision-making face of the pandemic.

DESCRIPTORS: Communication; Students; Coronavirus infections; Pandemics; Educational technology.

[1] Federal University Fluminense, Campus Rio das Ostras, RJ, Brazil.

Received: 10/07/2021; Accepted: 07/01/2022; Published online: 10/10/2022

Corresponding Author: Layanne Fonseca Pinto, Email: layannefp@gmail.com

How cited: Pinto LF, Silva ACSS, Góes FGB, Bonifácio MCS, Coelho YCCB, Goulart MCL. Theoretical content of a mobile application on COVID-19: contributions from healthcare students. *R Pesq Cuid Fundam* [Internet]. 2022 [cited year mouth day];14:e11438. Available from: https://doi.org/10.9789/2175-5361.rpcfo.v14.11438

RESUMO

Objetivo: identificar dúvidas de acadêmicos da área da saúde sobre a COVID-19 para a composição do conteúdo teórico de um aplicativo móvel. **Método:** pesquisa qualitativa, desenvolvida no estado do Rio de Janeiro, em julho de 2020, por meio de formulário eletrônico com acadêmicos da saúde, cujos dados foram processados no software *Interface de R pour Analyses Multidimensionnelles de Textes Et de Questionnaires*. **Resultados:** as dúvidas de acadêmicos da área da saúde sobre a COVID-19 que subsidiaram a composição do conteúdo do aplicativo móvel, versaram sobre: formas de contágio, cadeia de transmissão da doença, sinais e sintomas, contágio e prevenção, além do tratamento frente à COVID-19. **Conclusão:** a identificação de temas para composição do aplicativo móvel sob a ótica dos acadêmicos da área da saúde, possibilitará o uso deste como tecnologia educacional no âmbito da saúde, promovendo mudanças de atitudes, autonomia, além de favorecer a tomada de decisão frente a pandemia.

DESCRITORES: Comunicação; Estudantes; Infecções por coronavírus; Pandemias; Tecnologia educacional.

RESUMEN

Objetivo: identificar preguntas de académicos del área de la salud sobre COVID-19 para la composición del contenido teórico de una aplicación móvil. **Método:** investigación cualitativa, desarrollada en el estado de Rio de Janeiro, en julio de 2020, mediante un formulario electrónico con académicos de la salud, cuyos datos fueron procesados en el *software Interface de R pour Analyses Multidimensionnelles de Textes Et de Questionnaires*. **Resultados:** las dudas de los académicos del área de la salud sobre el COVID-19 que subsidiaba la composición del contenido de la aplicación móvil, fueron sobre: formas de contagio, cadena de transmisión de enfermedades, signos y síntomas, contagio y prevención, además del frente tratamiento para COVID-19. **Conclusión:** la identificación de temas para la composición de la aplicación móvil desde la perspectiva de los académicos en el campo de la salud, permitirá su uso como tecnología educativa en el campo de la salud, promoviendo cambios de actitudes, autonomía, además de favorecer la toma de decisiones ante la pandemia.

DESCRIPTORES: Comunicación; Estudiantes; Infecciones por coronavirus; Pandemias; Tecnologia Educacional.

INTRODUCTION

The current pandemic was caused by the new coronavirus (Severe Acute Respiratory Syndrome – SARS-CoV-2) identified as the etiologic agent of coronavirus disease 2019 (COVID-19), which can result in the development of severe acute respiratory syndrome (SARS), which given the rapid transmission and the large number of hospitalized patients and deaths, presents itself as a serious public health problem worldwide.[1]

Thus, these issues have required from health professionals, who work in the front line, continuous learning of new information regarding the high transmissibility of the new coronavirus among humans, requiring knowledge and skills to provide a differentiated and assertive care to the population. In view of this, the work environment became a scenario of high risk for these professionals, since the generalized contamination of hospital environments has been related to the hospitalization of patients contaminated by SARS-CoV-2, symptomatic or not.[2,3] On this aspect, Brazil, from the beginning of the pandemic until October 7th 2021, has counted at least 58,765 reported cases and 866 deaths among nursing professionals victimized by COVID-19.[4]

Given the large number of professionals infected and away from health services due to the new coronavirus, the Ministry of Education (MEC) in the use of its legal powers, sanctioned the Ordinance No.374, April 3, 2020, which provides for the anticipation of graduation for students of medicine, nursing, pharmacy, and physiotherapy courses, exclusively for acting in actions to confront the pandemic of the new coronavirus.[5] However, health students, especially undergraduate nursing students, do not always feel prepared to act in an integral way when facing an acute and emerging viral infection.

In addition to the above, it is observed that qualified health information has become a constant concern, and it is possible to identify in this directive, the exponential consumption of computer systems aimed at improving the quality of care, where nursing has been increasingly improving through the development and validation of digital tools for care management.[6]

In this directive, the use of mobile applications as educational technology in the health field shows promise with regard to the dissemination of knowledge about COVID-19, influencing a new profile of information delivery and interactivity with its users.[7] In this way, mobile applications used in the health field assume significant relevance, for being attractive, dynamic, easy to access and low cost, which encourages the use and at the same time facilitates learning because it is a mobile platform in educational support in health, which can be accessed from anywhere and at any time.[8]

Thus, given the possibility of these students working in health services, including in times of pandemics, this study is justified by the need to recognize possible doubts among students, as a way to contribute to the construction of the theoretical content of a free mobile application for smartphone by including topics that come from the perspective of this group, both for consultation and the general population in order to mitigate uncertainties about this disease.

This study aims to identify doubts of health academics about COVID-19 for the composition of the theoretical content of a mobile application.

METHODS

This is a descriptive-exploratory study of qualitative approach, whose construction met the recommendations of the Consolidated Criteria for Reporting Qualitative Research (COREQ).[9] Inclusion criteria were: being regularly enrolled in universities of any municipality taking courses in the health area and being over 18 years of age. Students who did not complete the form were excluded.

Data collection occurred between July 23 and 30, 2020, through the application of an online semi-structured form, built on the Google Forms virtual platform and sent via social media. The would-be participants were sent an invitation letter explaining the research and its objectives, as well as a link that gave access to the Free and Informed Consent Form, to accept or not the participation in the research. In the affirmative case, the participant was directed to the form to be filled out.

For the capture of participants, the snowball sampling technique was adopted.[10] It is noteworthy that the number of participants was determined by theoretical saturation, when the addition of new information was no longer necessary, because it did not change the understanding of the phenomenon studied.[11]

The form for data collection was prepared and previously evaluated for face and content validity by the researchers, PhDs in nursing. The form had two parts: 1) objective questions aimed at characterizing the participants and 2) questions about the studied object, which were: do you have doubts about COVID-19? What doubts do you have about COVID-19? When you have doubts about COVID-19, where do you get information? What information do you think is important to have in a mobile application about COVID-19?

For data processing, the software *Interface de R pour les Analyses Multidimensionnelles de Textes et de Questionnaires* - IRAMUTEQ was used, which allows different types of processing and statistical analysis of texts produced.[12] In this study, for the analysis of textual content by IRAMUTEQ, the methods Similarity Analysis and Hierarchical Descent Classification (CHD) were used. The corpus consisted of 40 texts organized in a single file without paragraphs and without being justified, where the questions were suppressed, and only the answers were kept to be analyzed.

The content of the answers (text segments) was interpreted in the light of the assumptions of Content Analysis, in the thematic modality, grouping them into nuclei of meaning and, later, into themes that encompassed a body of common and relevant meanings for the investigation of the object of study.[13] IRAMUTEQ uses the chi-square test ($\chi 2$) as a statistical test, considering statistically significant the association between class and active forms that obtained a value ≥ 3.84 and a p-value <0.05, with those with $p<0.0001$ being the extremely significant ones.

From this survey, the content of the answers was interpreted in the light of the assumptions of Content Analysis, in the thematic modality.[13] We sought to reach the core of understanding of the text segments of each class, from the most significant words, performing the interpretative analysis in line with the best evidence related to the theme.

All ethical aspects were contemplated in accordance with Resolution No. 466 of 2012 of the National Health Council. The study was submitted to the Ethics and Research Committee (CEP) of the Universidade Federal Fluminense and had its opinion approved under CAAE number 34338120.6.0000.8160.

RESULTS

Forty (100%) health students participated in the study, of which 37 (92.5%) were female. The mean age was 24 years, ranging from 18 to 49 years. Regarding marital status, most were single 32 (80%). Most of the participants 35 (95%) were undergraduate nursing students. When asked if they had any pre-existing diseases, 32 (80%) answered no, and three (7.5%) reported having chronic respiratory diseases.

In the basic lexicography, a simple statistical analysis of the corpus was performed, with the effective quantity of the active forms (nouns, adjectives, adverbs), supplementary forms, and the hapax list. Thus, the corpus was composed of 40 texts, with a total of 827 occurrences/words, 259 forms (lexical unit) and 154 hápax (single occurrence).

In the Similarity Analysis, it was possible to observe the interconnection between words, as well as the level of relationship between them, given that the index of cooccurrences between words can be stronger or weaker (Chi-square test). Thus, in this analysis, the central nucleus is represented by the adverb "no" from which branches descend. The branches that present higher degrees of connexity with the core are: symptom, sign, number, doubt, transmission, conduct, prevention, disease, treatment, transmissibility, measure, contagion, and form. This graphic organization, according to its frequencies and relations with the analytical object, illustrates precisely the most recurrent doubts of health academics, explored below, which need to be highlighted, as a way to subsidize the composition of the theoretical content of the mobile application, as shown in Figure 1.

Another analysis method used in this study was the CHD, through which 43 text segments were obtained, classifying 35 of them, containing 211 active forms, with 87.5% utilization, which were distributed according to the frequency of reduced forms (lemmas), indicating similarities among the vocabulary of the same class, while differences among the other classes, which generated three distinct clusters, as shown in Figure 2.

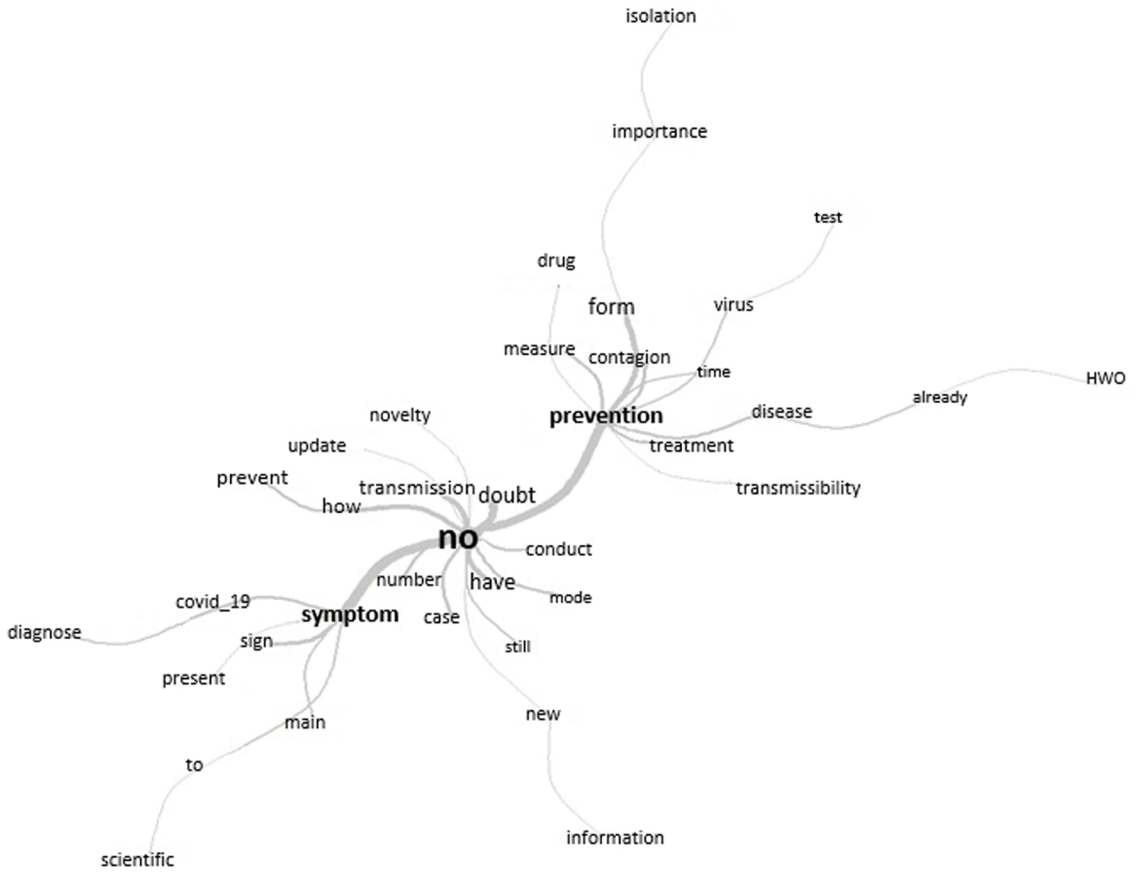

Figure 1 – Similarity Analysis. Rio de Janeiro, RJ, Brazil, 2020
Source: IRAMUTEQ software (2020).

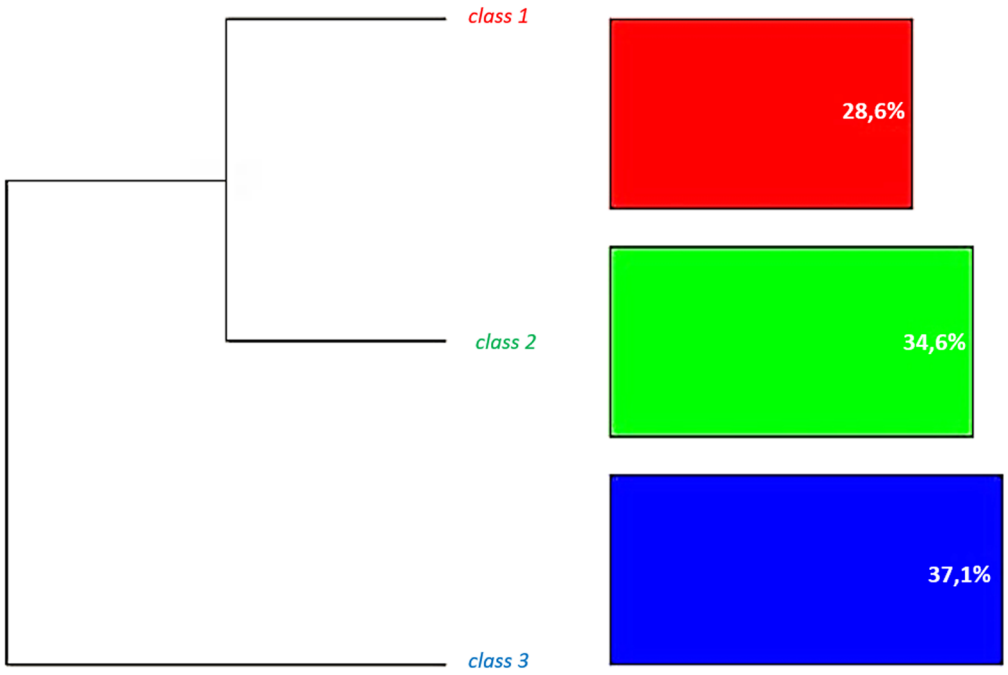

Figure 2 – Dendogram of the Descending Hierarchical Classification. Rio de Janeiro, RJ, Brazil, 2020
Source: IRAMUTEQ software (2020).

In the first moment, the corpus was divided into two subgroups. In a second step, the upper subgroup was divided into two interdependent classes, from which resulted classes 1 (red – 28.6%) and 2 (green – 34.3%), and the lower subgroup resulted in class 3 (blue – 37.1%). This means that classes 1 and 2 are less related or close to class 3. Thus, it can be stated, that class 3 is lexically opposed to classes 1 and 2. The CHD was finalized in this structure, as the three classes were stable, i.e., composed of text segments with similar vocabulary.

The text segments of each cluster were retrieved and interpreted in a detailed way, through the principles of the analytical framework, aiming to understand their meaning nuclei, as well as their proper names, as described below.

Class 1 – Ways of infection, transmission, prevention and pathogenicity of the new coronavirus

Class 1 was responsible for 28.5% of the text segments, in which the active forms that presented significant association ($Qui^2 \geq 3.84$) in descending order were the words: form ($p < 0.0001$), being this the central term in this class, besides other terms that also presented connection with this word, among them, virus, contagion, importance, test and transmissibility.

Aiming to interpret the meaning of the words enunciated by health students about doubts about COVID-19, the term "form" was the most expressive when analyzing the text fragments in this class, giving meaning to the doubts related to the form of: transmission, prevention, contagion, besides the form of how the new coronavirus acts in each organism.

Forms of prevention (Acad. 01)

Ways of contagion and transmission. (Acad. 06)

The way the virus acts in each organism. (Acad. 20)

Among the representative terms in this class, the term virus was associated with doubts related to vertical transmissibility between humans, as well as to domestic animals, immunity acquired by people who had contact with infected people, but remained negative, as well as the cycle of the virus in the organism.

Immunity of a portion of the population that despite contact with infected by the new coronavirus, tested negative for COVID-19. (Acad.06)

Basic microbiology of easy understanding to explain how the virus cycle works. (Acad.26)

Time the virus can stay in the organism. (Acad.16)

Still in this class, it was possible to observe that, besides the doubts listed above, the health area students, indicate through their answers the importance of getting specific information about the new coronavirus, in face of the unpredictability of this pandemic and its consequences, as enunciated in the textual fragments:

Scientific innovations about the subject, in addition to updated epidemiological data.(Acad.06)

The importance of isolation, how the disease occurs and develops even asymptomatic [...]. (Acad.14)

Is it possible that reinfection by the new coronavirus occurs? (Acad.10)

Class 2 – Situations and processes that contribute to the worsening of the health condition facing COVID-19

Class 2 was responsible for 34.3% of the text segments, in which the active forms that presented significant association ($Qui^2 \geq 3.84$) and connectedness among themselves, in descending order were the words: prevention, treatment, time, measure, sign, person, one, mode, transmission, and disease.

Faced with the increasing rate of infected people, the large number of deaths and the vulnerability imposed by COVID-19, the students urgently reported doubts related to situations and processes that can greatly affect or contribute to the worsening of their health condition and that of the people with whom they live.

Can a person get infected more than once and still have symptoms? (Acad.22)

Proven treatment for disease (Acad.04)

Reliable information on what the disease can do to the human body. (Acad.17)

Although four months of the current pandemic had passed by the time of data collection, doubts about COVID-19 still lingered, given the concern announced in the textual fragments among the participants about the identification of signs and symptoms and treatment against this disease.

What are the signs and symptoms besides the respiratory one. (Acad.33)

[...] News about the disease. (Acad.23)

Updates on the disease, symptoms and treatment. (Acad. 06)

Class 3 – Information about the new coronavirus as a fundamental piece to face the pandemic.

Class 3 accounted for 37.1% of the text segments, in which the active forms that presented significant association ($Qui^2 \geq 3.84$) and connectedness among themselves, in descending order were: prevent, number, cases, and diagnose.

Through the textual fragments, it was possible to observe that the participants consider important information about updated statistics about the number of cases, deaths, infected and cured people.

Number of infected and cured people. (Academician 40)

Statistics of the number of cases updated. (Acad.03)

Number of cases per city and state. (Acad.21)

Still in the information perspective, the participants' answers highlighted the importance of obtaining accurate information, emphasizing the essentiality of science as a way to face the pandemic.

Information with scientific proof. (Acad.03)

News produced by scientific research. (Acad.40)

Studies with precise orientations about the disease. (Acad.31)

In view of the urgent need of new forms of intervention against the pandemic caused by COVID-19, it was possible to observe through the reports of the participants, information that they consider latent to obtain facing the current scenario.

What can you do and what cannot be done during the period of symptoms and what medicines can be used? (Acad.36)

If I have COVID-19, what should I do? (Acad.29)

Which test is actually reliable? (Acad.15)

DISCUSSION

From the results found here, it was possible to observe that, although four months have passed since the beginning of SARS-COV-2 transmission in Brazil and in the world, at the time of data collection, the health students presented significant and pertinent doubts related to COVID-19 to subsidize the construction of the content of a mobile application, especially regarding the chain of transmission of the disease, signs and symptoms, contagion and prevention, as well as treatment against COVID-19.

Among the doubts presented, vertical transmission, zoonosis (animal-human) and immunity acquired from coronavirus infections were pointed out by the participants. About these aspects, it is worth mentioning that vertical transmission has shown to be an extremely relevant content in the preparation of the application, despite the fact that until the present moment there is not enough scientific evidence to refute with certainty the possibility of this type of transmission of SARS-Cov-19. For in some documented cases of possible contamination of newborns, it was not evident whether the transmission was transplacental or postnatal.[14] Therefore, vertical transmission of this infection, although it seems possible, has not yet been properly proven. Thus, it is believed that the main route of transmission occurs after birth by droplets from infected caregivers or by contact with contaminated biological material from the mother to the newborn.[15–16]

Still in this current, another doubt pointed out by the participants refers to the transmission between domestic animals and humans, which is still an unknown factor in view of the contemporaneity of COVID-19; many studies are being developed trying to establish the possible reservoir animal. Thus, the precise origin of COVID-19 has not yet been determined. However, epidemiological evidence has pointed to several cases of zoonotic transmission in the seafood market in Wuhan, the Chinese capital, where live animals, seafood, and wild animals are traded[17], thus constituting an important topic to be inserted in the construction of the mobile app.

Regarding the transmission from animals to humans, as highlighted in the textual fragments, the sequence analysis of the genome of COVID-19, showed 88% identity of two types of coronaviruses with development of severe acute respiratory syndrome (SARS) from bats, indicating that mammals are the most likely link between COVID-19 and humans.[18] However, to date, the wild animal of SARS-CoV-2 has not been defined.[19] The World Health Organization (WHO) reports that infected patients can transmit the disease to domestic animals due to close contact. On the other hand, studies are needed to know if the domestic animal, can spread the disease to humans.[20] Thus, these issues raised configure important topics to be inserted in the mobile application about COVID-19, as well as the need to update in face of new scientific evidence.

Doubts regarding the immunity acquired from the infection arose among the interviewees, and presented itself as a significant topic for the composition of the programmatic content. Recent scientific evidences admit the possibility of reinfection by the new coronavirus in a short period of time, however, they highlight some aspects that must be carefully observed before admitting the suspicion of reinfection by the SARS-CoV-2 virus, among them errors in the collection of material for diagnostic testing, use of tests with low sensitivity and specificity, differences in the immune response of individuals to the virus, and use of medications that can weaken the immune system of patients, causing an infection that was apparently cured to correspond to the persistence of the same episode of infection.[19]

Another point made by the participants was regarding the number of days that the new coronavirus can be eliminated by the infected individual. A cohort study of 199 individuals with COVID-19, in the Republic of Korea, identified that the mean duration of the elimination of the new coronavirus occurs in 24 days, being longer in patients with symptoms, especially with chest pain (30 days on average) and expectoration (approximately 27 days).[21]

Doubts related to the clinical aspect, the risk factors for the SARS-19, as well as the conditions that promote the worsening of the health condition for those infected and SARS, were also pointed out by the participants of this study and, due to its relevance, these issues will be part of the repertoire of information to be made available in the mobile application. Besides the dubiousness related to the treatment and conduct to be adopted in case of infection. Such aspects demonstrate great importance for the planning of educational practices about COVID-19, since the theoretical content of the application will not be specific and, therefore, accessible only to health academics, but will extend to the entire population that, through the use of colloquial language,

seeks to obtain safe and qualified information about which measures should be adopted in case of infection and worsening of the clinical picture, among others.

These gaps in knowledge, as well as the development of numerous research studies on the current pandemic, means that evidence that is now affirmed is refuted in a short time[22], requiring health professionals and academics to be constantly updated through scientific evidence published by competent bodies and health authorities. In this reading, the textual fragments showed that besides the lingering doubts about COVID-19, the participants also stressed that it is essential to obtain reliable information, especially scientific information. It is noteworthy that the massive use of mobile communication devices enables quick access to information, and through this research, it was possible to realize that the application should contain not only reliable information, but also links to the pages of the official information agencies about the pandemic.

It is understood that the lack of knowledge about the new infectious disease, never described in humans, brought uncertainties about how it behaves in the body, besides representing a serious threat to human life. However, when facing chaos, especially because of the feeling of fear of the new, it is necessary to discover new forms of (re)organization that emerge as possibilities of doing science, not in a fragmented and reductionist way, but with interlocution of knowledge for the care in multiple dimensions, considering the complex reality of the pandemic of COVID-19.[23]

CONCLUSION

From the contribution of the health students, it was possible to identify the emerging themes related to the disease transmission chain, contagion and prevention, as well as the treatment against COVID-19, which makes possible the composition of the mobile application from these theoretical contents, configuring an educational technology in the health field, promoting changes in attitudes, autonomy, and favoring decision making against the current pandemic.

Moreover, the doubts of the academics of health presents itself as a major implication in the practice of nursing, regarding the use of this as an educational technology in health, since it will permeate the process of interaction and communication between academics, health researchers and the entire civil society in digital networks against COVID-19, thus envisioning a new form of health care, empowering the population, regarding the prevention and minimization of injuries of COVID-19, in a current, technological and accessible format.

A limitation of the study refers to the number of participants, which may not cover the reality of other health students, considering that most of them were nursing students.

It is worth mentioning that the application for mobile devices was registered at the National Institute of Industrial Property, under number BR 512021001882-6 and awaits indexing in the app stores (IOs and Google Play), for free access, with no cost for download.

REFERENCES

1. Sant'Ana G, Imoto AM, Amorim FF, Taminato M, Peccin MS, Santana LA, et al. Infection and death in healthcare workers due to COVID-19: a systematic review. Acta Paul. Enferm. (Online). [Internet]. 2020 [cited 2021 may 06];33:eAPE20200107. Available from: https://doi.org/10.37689/acta-ape/2020AO0107
2. Ong SW, Tan YK, Chia PY, Lee TH, Ng OT, Wong MS, et al. Air, Surface environmental, and personal protective equipment contamination by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) from a symptomatic patient. JAMA. [Internet]. 2020 [cited 2021 may 06];323(16). Available from: https://doi.org/10.1001/jama.2020.3227
3. Yung CF, Kam KQ, Wong MS, Maiwald M, Tan YK, Tan BH, et al. Environment and personal protective equipment tests for SARS-CoV-2 in the isolation room of an infant with infection. Ann. intern. med. [Internet]. 2020 [cited 2021 mai 06];173(3). Available from: https://doi.org/10.7326/M20-0942
4. Conselho Federal de Enfermagem (Brasil). Observatório da Enfermagem. [Internet]. 2021 [cited 2021 07 oct]. Available from: http://observatoriodaenfermagem.cofen.gov.br
5. Ministério da Educação (Brasil). Portaria nº 374 de de 3 de abril de 2020. Dispõe sobre a antecipação da colação de grau para os alunos dos cursos de Medicina, Enfermagem, Farmácia e Fisioterapia, exclusivamente para atuação nas ações de combate à pandemia do novo coronavírus – Covid-19. [acesso em 06 de maio 2021]: Disponível em: https://www.in.gov.br/en/web/dou/-/portaria-n-374-de-3-de-abril-de-2020-251289249
6. Pegoraro LGO, Gvozd R, Haddad MCFL, Vannuchi MTO, Silva LGC, Rossaneis MA. Validation of instrument to assess software of patients' risk classification. Rev. bras. enferm. [Internet]. 2018 [cited 2021 may 06];71(3). Available from: http://dx.doi.org/10.1590/0034-7167-2017-0053
7. Souza RC, Alves LAC, Haddad AE, Macedo MCS, Ciamponi AL. Processo de criação de um aplicativo móvel na área de odontologia para pacientes com necessidades especiais. Rev. ABENO. [Internet]. 2013 [acesso em 06 de maio 2021];13(2). Disponível em: https://doi.org/10.30979/rev.abeno.v13i2.104
8. Krysia WH, Marion JB. O desafio da enfermagem e da saúde na idade digital. Texto & contexto enferm. [Internet]. 2018 [acesso em 06 de maio 2021];27(2). Disponível em: https://doi.org/10.1590/0104-07072018002018editorial2

9. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32- item checklist for interviews and focus groups. Int. j. qual. health care. 2007 [cited 2021 may 06];19(6). Available from: https://doi.org/10.1093/intqhc/mzm042.

10. Vinuto J. A amostragem em bola de neve na pesquisa qualitativa: um debate em aberto. Temáticas. [Internet]. 2014 [acesso em 06 de maio 2021];22(44). Disponível em: https://doi.org/10.20396/temáticas.v22i44.10977

11. Nascimento LCN, Souza TN, Oliveira ICS, Moraes JRMM, Aguiar RCB, Silva LF. Theoretical saturation in qualitative research: an experience report in interview with school children. Rev. bras. enferm. [Internet]. 2018 [cited 2021 may 06];71(1). Available from: http://dx.doi.org/10.1590/0034-7167-2016-0616

12. Camargo BV, Justo AM. IRAMUTEQ: um software gratuito para análise de dados textuais. Temas psicol. (Online). [Internet]. 2013 [acesso em 06 de maio 2021];21(2). Disponível em: https://doi.org/10.9788/TP2013.2-16

13. Minayo MCS. O desafio do conhecimento: pesquisa qualitativa em saúde. 14ª ed. [São Paulo]: Hucitec; 2014.

14. Federação Brasileira das Associações de Ginecologia e Obstetrícia (Brasil). Protocolo de atendimento no parto, puerpério e abortamento durante a pandemia da covid-19. [Internet]. 2020 [acesso em 10 de maio 2021]. Disponível em: https://www.febrasgo.org.br/pt/covid19/item/1028-protocolo-de-atendimento-no-parto-puerperio-e-abortamento-durante-a-pandemia-da-covid-19

15. Sociedade Brasileira de Pediatria (Brasil). Recomendações para Assistência ao Recém-Nascido na sala de parto de mãe com COVID-19 suspeita ou confirmada – Atualização 2. [Internet]. 2020 [acesso em 10 de maio 2021]. Disponível em: https://www.sbp.com.br/fileadmin/user_upload/22499cNAAssist_RN_SalaParto_de_mae_com_COVID-19.pdf

16. Góes FGB, Santos AST, Lucchese I, Silva LJ, Silva FL, Silva MA. Best practices in newborn care in covid-19 times: an integrative review. Texto & contexto enferm. [Internet]. 2020 [cited 2021 may 10];29:e20200242. Available from: http://dx.doi.org/10.1590/1980-265x-tce-2020-0242

17. Murdoch DR, French NP. COVID-19: another infectious disease emerging at the animal-human interface. NZ Med J. [Internet]. 2020 [cited 2021 may 10];133(1510). Available from: https://assets-global.website-files.com/5e332a62c703f653182faf47/5e4dabb0ca58f1a6a2c822d3_Murdoch%20FINAL.pdf

18. Rothan HA, Byrareddy SN. The epidemiology and pathogenesis of coronavirus disease (COVID -19) outbreak. J. autoimmun. [Internet]. 2020 [cited 2021 may 10];109 :102433. Available from: https://doi.org/10.1016/j.jaut.2020.102433

19. Ministério da Saúde (Brasil). Secretaria de Vigilância em Saúde. Departamento de Análise em Saúde e Doenças não Transmissíveis. Guia de vigilância epidemiológica Emergência de saúde pública de Importância nacional pela Doença pelo coronavírus 2019 – covid-19. [Internet] 2021 [acesso em 10 de maio 2021]. Disponível em: https://www.conasems.org.br/wp-content/uploads/2021/03/Guia-de-vigilância-epidemiológica-da-covid_19_15.03_2021.pdf

20. World Organization for Animal Health. OIE: Questions and answers on the 2019 Coronavirus Disease (COVID-19). [Internet]. 2020 [cited 2021 may 10]. Available from: https://www.oie.int/en/what-we-offer/emergency-and-resilience/covid-19/

21. Noh JY, Yoon JG, Seong H, Choi WS, Sohn JW, Cheong HJ, et al. Asymptomatic infection and atypical manifestations of COVID-19: Comparison of viral shedding duration. Letters to the Editor/ Journal of Infection. [Internet]. 2020 [cited 2021 may 10];81(5). Available from: https://doi.org/10.1016/j.jinf.2020.05.035

22. Iser BPM, Sliva I, Raymundo VT, Poleto MB, Schuelter-Treviso F, Bobinski F. Suspected COVID-19 case definition: a narrative review of the most frequent signs and symptoms among confirmed cases. Epidemiol. Serv. Saúde (Online). [Internet]. 2020 [cited 2021 mai 10];29(3). Available from: https://10.5123/S1679-49742020000300018

23. Backes MTS, Carvalho KM, Santos EKA, Backes DS. New coronavirus: what does nursing have to learn and teach in times of a pandemic? Rev. bras. enferm. [Internet]. 2020 [cited 2021 mai 10];73(Suppl 2). Available from: http://dx.doi.org/10.1590/0034-7167-2020-0259