

Students' Covid-19 Digital Health Literacy at Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski"

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Abstract

The new coronavirus called SARS-CoV-2 causes COVID-19, which caused a pandemic. The highly contagious disease has led the whole world to unprecedented business, humanitarian and human challenges. But, as always, any risk can be recognized as a new opportunity. Thus, people around the world have redefined their understanding for health and well-being. However, it is important that in different geographies and industries people will continue to take advantage of this large-scale experiment caused by the pandemic and to rethink concepts, habits, and policies established long ago, in some cases. The aim of the paper is to explore students' Covid-19 digital health literacy at Faculty of Mathematics and Informatics, Sofia University "St. Kliment Ohridski". A standardized questionnaire and scale were used, which aims in providing the ability of comparing the results with other students from other countries, and specialties. The results so far show students reported high HL, and an ability to crosscheck health information, which provides them with satisfaction, regarding to this information. Our students trust modern digital platforms, but also the official health authorities in the country, including the developed Bulgarian unified information portal, the Ministry of Health, and the Regional Health Inspectorate web pages.

Keywords

Health literacy, digital, Covid-19

1. Introduction

The identified species of coronavirus called SARS-CoV-2 causes COVID-19 (where 'CO' for corona, 'VI' for virus and 'D' for disease), which caused a pandemic. We need to redefine our understanding for health and well-being, includ-

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ing our understanding for health literacy, the specifics of digital health literacy, and the challenges related with Covid-19 digital health literacy.

According to the WHO “Health literacy implies the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions.” [1] In other words the definition of health literacy requires access to health information, ability to acquire correct information, and capacity to treat this information.

What we realized under the challenges imposed by the pandemic is that any possible improvement of the population’s health literacy can provide the people with the ability to first of all improve their own health, but also get engaged with activities related with the improvement of the health for their community. The use of the Inter-net as a resource for information of best quality has increased. But, lack of time, lack of searching skills and sometimes lack of facilities and motivation don’t let end users to obtain the available information.

In this relation the applied digital communication technologies we experienced that represent a very strong instrument, and play an important role in governments health communication strategies. The efficiency of the communications of public health authorities during the COVID-19 pandemic was related to the use of the digital plat-forms. The Internet became important source of COVID-19-related health information. Information was spread faster than the virus itself. In many cases this affected the governmental communication efforts. Even more people acquiring information and professionals developing such information platforms having all this public health communications to deal with realized that COVID-19 digital health literacy is a key competence to find reliable information on the Internet.

Under the SARS-CoV-2019 pandemic caused by the Coronavirus Disease 2019 (COVID-19) virus, we were all forced to access and use various sources of health in-formation available on different digital platforms on the Internet. This brought in front side issues related to health literacy (HL), but in a new for the society point of view related with the involvement of the digital component. Even people are using digital information platforms in their every day habits; it is not always given their ability to adequate evaluating the quality of the acquired information, and this becomes an issue when this information is related to health.

In the case of our students, from the Faculty of Mathematics and Informatics, at Sofia University “St. Kliment Ohridski” we have in many cases a dual role. From the one side as people – users of the information, but from the other as IT professionals are often engaged in systems development. In this second role they have the duty, and the ability to improve the systems they develop, and provide them with reliable, checked input. For systems based on the use of training data and information it is of crucial importance the quality of those training examples.

It is this characteristic, of the participation of our students in the development of the future health information systems and platforms, that makes this

study more important. IT students, as future professionals involved in systems development, need to have accurate health literacy, apart their digital abilities.

2. Methods

For the purpose of the study a Questionnaire developed by Dadaczynski, K., Okan, O. & Rathmann, K. in 2020 as COVID-19 Health Literacy Survey: University Students (COVID-HL Survey), and the respective Scale Documentation under the Public Health Centre Fulda (PHZF) at the Fulda University of Applied Sciences & Interdisciplinary Centre for Health Literacy Research at Bielefeld University [2, 3, 4], was used.

The main goals of the study include to assess digital HL of university students; explore the different digital sources of information students consult when seeking for COVID-19 information; capture student's future time perspective/worries; and also assess students Sense of Coherence under this health situation.

An invitation for students' participation was published on the Faculty of Mathematics and Informatics web page on the 11th of December 2021. Additional reminding e-mails were sent to 1.690 students during the following month. The students were informed that although personal data was collected, it couldn't be assigned to a specific person. And also the information was collected solely for scientific purposes and with the aim of developing support services. Responses were collected from 178 students, which make a response rate of 10.53% of the students. The survey had the approval of the ethics committee of Sofia University "St. Kliment Ohridski".

3. Findings

First of all the related with Digital Health Literacy (DHLI) question was formulated with a subscale related to information searching. The main question was "When you search the Internet for information on the coronavirus or related topics, how easy or difficult is it for you to..." with three sub components (see Figure 1):

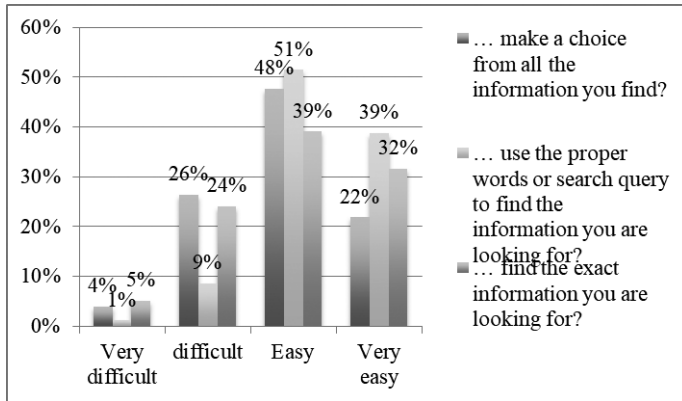


Figure 1: Digital Health Literacy (DHLI) question – incl. the three sub-components

1. make a choice from all the information you find?
2. use the proper words or search query to find the information you are looking for?
3. find the exact information you are looking for?

The majority of the respondents more than 70%, find it “easy” or “very easy” to make a choice (70%), find the information (90%), or find the exact information they are looking for (71%), according to the question adopted from Van der Vaart, R. & Drossaert, C. (2017) [5].

Immersive is the amount of students (89%) crosschecking the acquired health information in both English and Bulgarian languages (see Figure 2). The students were instructed for the possibility to select multiple responses if necessary.

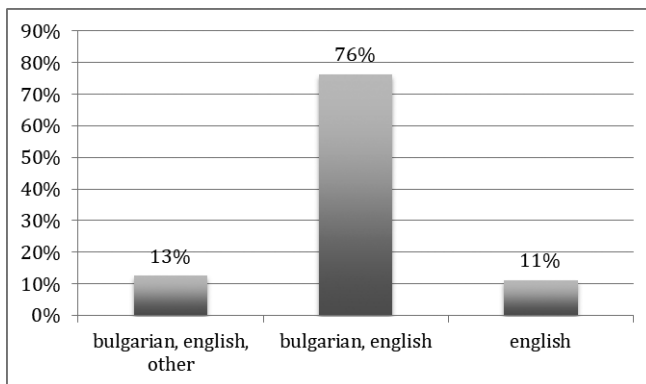


Figure 2: Languages of the sources, used for searching information on coronavirus and related health topics

The sources used for online information seeking were explored by providing various possibilities, on how to get information about coronavirus and related topics on the Internet (see Figure 3). The students were asked to indicate how often they used the following sources:

- Source 1: Search engines (e.g. Google, Bing, Yahoo!)
- Source 2: Websites of public bodies (here were added three sources from our country, namely, Bulgarian unified information portal, the Ministry of Health, and the Regional Health Inspectorate web pages)
- Source 3: Wikipedia and other online-encyclopedias
- Source 4: Social media (e.g. Facebook, Instagram, Twitter)
- Source 5: YouTube
- Source 6: Blogs on health topics
- Source 7: Guidebook-communities (here was added one example from our country, namely, zdrave.net)

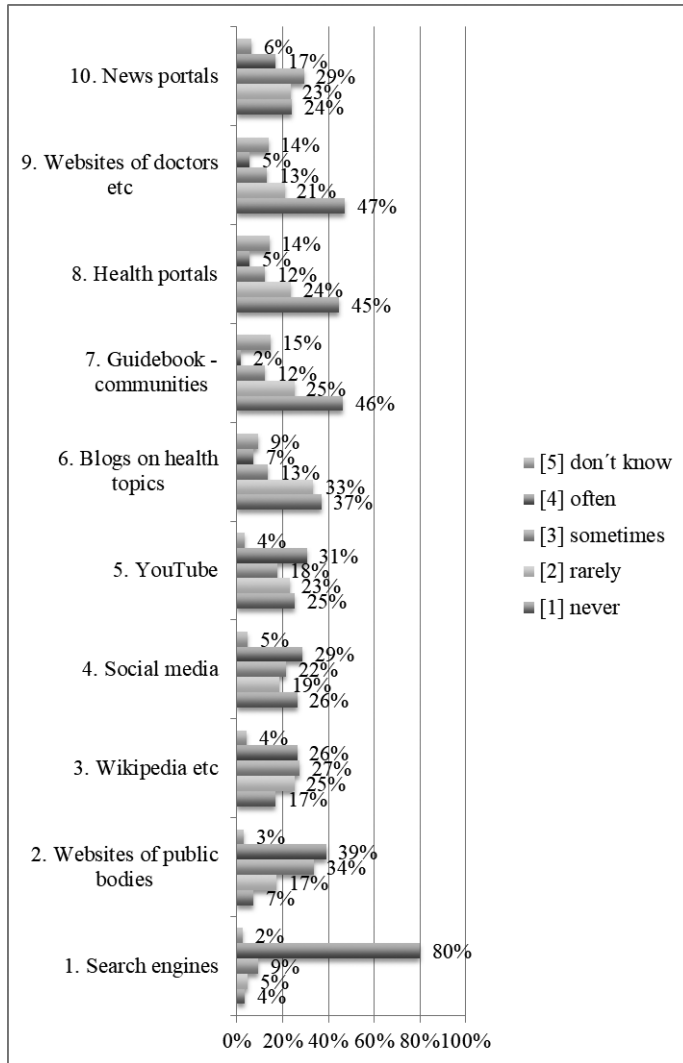


Figure 3: Sources used for online information seeking

- Source 8: Health portals (here was added one example from our country, namely, credoweb.bg)
- Source 9: Websites of doctors or health insurance companies
- Source 10: News portals (e.g. of newspapers, TV stations)

The available options provided to the students were qualified, as never, rarely, sometimes, often, and don't know.

As for the various possibilities of how to get information about the coronavirus and related topics on the Internet (see Figure 3), the respondents indicate most

often they use search engines (e.g. Google, Bing, Yahoo!), followed by official Health portals (for example, the Bulgarian unified information portal, the current news – Ministry of Health, and the Regional Health Inspectorate).

The question related to the online sources of information seeking, was adapted from Marstedt, G. (2018) [6].

The students' satisfaction with the information acquired on the Internet about corona-virus was explored also. The question was stated as "How satisfied are you with the information you find on the Internet about corona-virus?" and were given the following options to the students (see Figure 4): very dissatisfied, dissatisfied, partly satisfied, satisfied, and very satisfied.

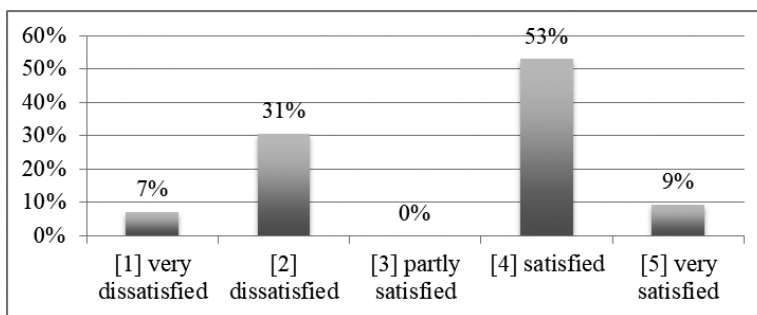


Figure 4: Students' satisfaction with the information found on the Internet about corona-virus

The majority of the students, 62%, were either satisfied, or very satisfied with the information they found on the Internet about corona-virus.

4. Conclusions

The results presented show that most of the students reported high HL. May be their ability to crosscheck health information explains their satisfaction regarding to this information. Young people as the students in the Faculty of Mathematics and Informatics, at Sofia University "St. Kliment Ohridski" trust modern digital platforms, but also have a high rated opinion for the official health authorities in the country. The trusted sources for our students of Covid-19 health-related information include the developed for the purpose Bulgarian unified information portal, the Ministry of Health web page, and the web page of the Regional Health Inspectorate, confirming the published preliminary results [7].

We can see that our students have well-developed COVID-19 digital health literacy. But still, more efforts could help in two directions, first to further strengthen our students' digital health literacy capacities, and second to help improve the health-related information quality on the Internet.

The study is still ongoing. More results are currently collected from sciences students in the Faculty of Public Health, at the Medical University – Sofia.

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