Faculty of Pharmacy

Factors affecting COVID-19-related health literacy in Egyptian population

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Projects Summary:

- **Project idea**

Elevating health literacy levels of individuals can be promoted via focusing on gaining capacities, such as reading and acting upon written health information, encouraging effective communication of their needs to health professionals, and

understanding health instructions (Peerson & Saunders, 2009; Schyve, 2007; Seng et al., 2020). This can be addressed by educating the public to become more resourceful via improving social responsibility about the provision of high-quality, trustworthy, easy-to-access, easy-to-understand, easy-to-use, culturally appropriate, update information about COVID-19, and relevant to various populations (Hernández-García & Giménez-Júlvez, 2020; Okan, Sørensen, et al., 2020; Paakkari & Okan, 2020). However, health literacy

research of COVID-19 infodemic has remained insufficient (Paakkari & Okan, 2020), because scientists often focus on the prevention of disease, not on promoting health literacy of the disease.

❖ Aim of the work:

Until now, there was no available study on the COVID-19 health literacy of Egyptian people. The aim of this project is to assess coronavirus-related health literacy in Egyptian population and to increase their awareness about preventing the spread of COVID-19 virus.

- Specific Objectives

A. Measure Patient's health literacy regarding the disease
B. Examine the differences in health literacy in relation to age, gender, education level, profession background being medical or non-medical, and socioeconomic factors.

C. Provide evidence-based information to the enrolled participants about the protective measures required to stop the spread of the COVID-19 virus and answering their enquires about this topic.

Subjects and methods:

This cross-sectional study was done in Egypt during the second wave of COVID-19 pandemic. It represents a population-based survey on comprehensive health literacy in relation to coronavirus information and it uses the adapted HLS-EU-Q in the context of the COVID-19 to assess coronavirus-related health literacy. It also tests COVID-19-related health literacy in individuals in relation to feeling informed or confused about COVID-19 by the high flow of information about the COVID-19. Each item of the questionnaire was rated on a four-point Likert scale (very difficult, difficult, easy, and very easy). “Very difficult” was scored as 1 “difficult” was scored as 2, “easy” was scored as 3, and “very easy” was scored as 4. Scale values were calculated as summed scores.

First phase: Questionnaire designing and tools used

1) **Sociodemographic Questions:**

Participants were asked about their gender, age, education, household monthly income, and occupation (medical versus non-medical background).

2) **Information or Confusion about the Coronavirus**

3) **Health Literacy assessment**

- Mean score of <2.5: “inadequate health literacy”
- Mean score of 2.5–3: “problematic health literacy”
- Mean score of >3: “sufficient health literacy

4) **Questionnaire tools was translated from English into Arabic**

5) by an independent Arabic native speaker, and later back-translated by a second translator to establish a version (semantically, conceptually, and experientially) equivalent to the original one. The retro-translation gave rise to no differences.

Second phase: Questionnaire filling

The survey was done via participants interviews in spring 2020-2021. Students were divided into groups for questionnaire sample collection using stratified random sampling technique. They were divided according to the criteria of participants enrollment into16 groups that represent the diverse Egyptian population; Where each student applied face-to-face interviews with 10 participants. The survey included Egypt. Each student filled the gathered male and female participants from information later in a Google form.

Third phase: Increasing population awareness about COVID-19 pandemic

Fourth phase: Statistical analysis:

Ethical approval:

Ethical approval was granted by the ethics committee of the faculty of pharmacy, Pharos university in Alexandria, Egypt (Study number: PUA01202106203024

Results and discussion:

A cross-sectional study was conducted from April 2021 to May 2021 in Egypt. The sample compromised 3960 persons, of which n = 81 participants dropped out the question about profession. The sample compromised 40.9% females and 59.1% males (Table 1). Almost half of the participants questioned were above 45 years old. About eighty one percent of the participants reported a household income under 2000

EGP and between 2000–4999 EGP, while 18.4% had an income of at least 5000 EGP per month. Education was divided into four categories: 4.4% were illiterate, 9.6 % were literate (can read and write), 21% had school education, while 65.2% had high school education (university degree or postgraduate degree).

The health literacy mean score of the total sample was 2.89 (SD = 0.465), meaning that it was, on average, “easy” for participants to deal with information related to coronavirus. A total of 21.2% of participants were found to have “inadequate health literacy”, 35.2% had “problematic health literacy”, and 43.7% had “sufficient health literacy”.

“Inadequate” and “problematic” levels were significantly more prevalent among those who felt “not so well informed/not well informed at all” about the coronavirus compared to those who reported feeling “well informed” ($p < 0.001$), or “very well informed” ($p < 0.001$). Also, “inadequate” and “problematic” health literacy levels were significantly more prevalent among those who felt “very confused” compared to

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se who reported feeling "somewhat confused" ($p < 0.01$), or "barely confused/not confused at all" ($p < 0.001$). A significant positive moderate correlation was found between health literacy score and both being informed and not being confused about COVID-19.

Health literacy levels related to COVID-19 were significantly higher in females (Table 1). Significant strong negative correlation ($p < 0.01$; $p < 0.05$) were observed for age and COVID-19 related health literacy. This means that a negative relationship exists between age and COVID-19 related health literacy where the older the person is, the lower his/her COVID-19 related health literacy level is.

A significant moderate positive correlation was found between education level and COVID-19 related health literacy. The higher the education level, the higher the

COVID-19 related health literacy score of the individual. A significant weak positive relationship was found between monthly household income

and COVID-19 related health literacy, where the higher the monthly household income, the higher the COVID-19 related health literacy score of the individual.

Individuals of professions with medical background had higher COVID-19 related health literacy scores.

While most tasks addressed by the questionnaire are easy for most respondents (mean score close to 3, it is easiest to "find information about the coronavirus on the internet" (mean = 3.06) and "find information on the internet about protective behaviors that can help to prevent infection with the coronavirus" (mean = 3.05).

On the contrary, the most difficult tasks were" to judge if information on coronavirus and the coronavirus epidemic in the media is reliable" (mean = 2.66), and "to judge if they have been infected with coronavirus" (mean = 2.51) and "to judge how much I am at risk for a coronavirus infection" (mean= 2.6).

❖ Conclusion:

There is a great need to promote health education among the Egyptian population. Limited health literacy which includes problematic and inadequate health literacy is a common problem. More than half of the Egyptian population has inadequate or problematic COVID-19 related health literacy score. Female gender, younger age, higher socioeconomic status, professions with medical background, and level of education were positively correlated to COVID-19 related health literacy. It is important that the government, policymakers, healthcare providers, and media act proactively to increase the level of the citizens COVID-19 related health literacy.