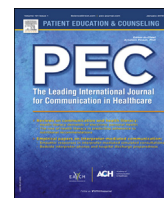




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Public awareness in Egypt about COVID-19 spread in the early phase of the pandemic



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ABSTRACT

Objective: This study aimed to evaluate public awareness in Egypt related to the coronavirus.

Methods: An online structured survey was conducted during March and April 2020 to assess coronavirus knowledge. The questionnaire was divided into 6 parts consisting of 39 questions for a total possible score of 0 to 39; to assess the participants' general knowledge [10 items]; symptoms knowledge [2 items]; transmission knowledge [6 items]; preventive knowledge [4 items]; treatment knowledge [6 items], and public knowledge of governmental and international efforts [10 items].

Results: A total of 726 participants participated, 97.5% of them knew the main clinical symptoms of coronaviruses. 99% believed that following the etiquette of coughing, sneezing, or wearing a medical mask is important to reduce infection transmission. 80.5% of the participants believed that there is no effective treatment or vaccine available for the coronavirus. The important role of the international organizations to overcome the coronavirus was known by (92.3%). 65.2% believed that the Ministry of Health provided reliable data on the number of infections or death. 27.9% of the participants consider coronavirus infection as a stigma. The average score of this survey was 31.75/39 (81.4%) regarding the knowledge about the disease.

Conclusion: Overall, the study participants' had good knowledge of coronavirus and the international efforts to confront the coronavirus.

Practice implications: Further study is required to evaluate the effect of such good knowledge on decreasing the infection rate.

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1. Introduction

Coronavirus disease (COVID-19) is affecting different countries all over the world with great variation in infection rate and death ratio [1]. Knowledge of the causative agent and the disease methods of transmission is important to develop effective control [2,3]. It was previously shown that when people understand how the disease is transmitted and what the preventive considerations are; the virus spread decreases [4].

Social awareness is important in managing the spread of infectious diseases. Personal actions, such as self-hygiene and avoiding being in crowds, can reduce the spreading of the disease [5]. Therefore, awareness facilitates the rapid identification and treatment of new cases [6].

This study aimed to evaluate the awareness and practices related to the coronavirus among the public in an early phase of the pandemic.

2. Methods

An online structured survey was used to collect data from all over the Arab Republic of Egypt during March and April 2020. The questionnaire items were developed based on the educational material published by the World health organization (WHO) [7].

The questionnaire was divided into seven parts:

- 1 Participants' demographic data
- 2 General knowledge about the disease and the practices to confront the coronavirus
- 3 Knowledge of disease symptoms
- 4 Knowledge of methods of transmission of the disease to measure public knowledge about how the disease is transmitted

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- 5 Knowledge of preventive considerations
- 6 Knowledge about the treatment and practices of the infected patient
- 7 Knowledge about the efforts of the government and the international organizations to confront the pandemic

Responses to the last six parts of the questionnaire were reported as “Yes”, “No”, and “Do not know”. The participant was given a score = 1 if he/she answered the question correctly and zero if he/she could not answer correctly or did not know the correct answer to end up with a total ranging from 0 to 39. The participant was classified as having good knowledge about the disease if he/she scored >31 (>80%) points which is an average satisfying percentage in most previous survey studies [1,2,8,9].

3. Results

A total of 726 participants participated (Table 1). The distribution of the demographic data of the participants showed a high percentage of females, unmarried, college students, members of a family group of 3–6, nonsmokers, and city dwellers. 97.5% of the informants knew the main clinical symptoms of coronaviruses. 99% believed that following the etiquette of coughing, sneezing, or wearing a medical mask is important to reduce infection transmission (Table 2). 80.5% of the participants believed that there is no effective treatment or vaccine available for the coronavirus. The important role of the international organizations to overcome the coronavirus was known by (92.3%). 65.2% believed that the Ministry of Health provided reliable data on the number of infections or death. 27.9% of the participants consider coronavirus infection as a stigma. The average score of this survey

was 31.75/39 (81.4%) regarding the knowledge about the disease. See online appendix (Tables A–E) for further details.

4. Discussion and conclusion

4.1. Discussion

Studying Egyptian participants is of interest since they represent a level between the USA and Europe with their high influence of their ministry of Health and informatics and other countries with their lower level. Also, awareness level in Egypt could reflect the awareness level in most Middle East countries since the Egyptian media is seen by almost all of the Middle East countries. So, any awareness message presented in the Egyptian media could be easily seen and learned by the whole Middle East.

Additionally, Egypt is a tourist and investment country that receives tourists and investors from all over the world. So, to have any possible information about the level of public awareness gives the visitors a feeling of reassurance about their visit or investment in Egypt.

The majority of the participants had a satisfied coronavirus knowledge, but more than one-quarter of the participants believed that hand washing with or without soap has the same effect in preventing the spread of coronaviruses, which indicates that they need more awareness about self-hygiene. [10] Nearly 82% of the respondents were classified as knowledgeable about the disease and its treatment and the efforts of the international organizations to confront the pandemic. The majority of the participants here have a satisfied knowledge of the transmission methods of coronavirus. The majority of the participants answered that they would call the hotline for coronavirus in Egypt if they felt they had

Table 1
Participants demographic data.

Characteristics	Percentage (%)	Numbers	Knowledge Score (Mean ± SD)
Gender			
Male	27.70%	201	31.80 ± 3.81
Female	72.30%	525	31.82 ± 3.40
Age in years			
under 17 years	2.60%	19	31.67 ± 3.09
35–45 years	11.60%	84	29.84 ± 5.10
17–35 years	81.00%	588	32.16 ± 2.94
>45 years	4.80%	35	31.91 ± 2.05
Educational level			
Prep. or sec. school	4.00%	29	31.00 ± 3.76
Colleague student	59.20%	430	32.17 ± 2.93
Bachelor	24.00%	174	31.68 ± 3.22
Master/PhD	12.80%	93	30.91 ± 4.67
Marital status			
Unmarried	71.90%	522	32.12 ± 2.91
Married	27.40%	199	31.07 ± 4.17
Divorced	0.70%	5	33.50 ± 1.29
Number of individuals in the family			
3 to 6	76.90%	558	31.86 ± 3.28
> 6	23.10%	168	31.78 ± 3.52
Current place of residence			
City	70.60%	513	31.63 ± 3.31
Country	29.40%	213	32.35 ± 3.32
Smoking status			
Smoker	5.10%	37	32.00 ± 4.85
Non-smoker	94.90%	689	31.78 ± 3.46

Table 2
General knowledge about the disease and the practices to confront the coronavirus.

question	%
1- Are you have knowledge about coronavirus?	
Yes	97%
No	3%
2- Is coronavirus known by causing respiratory diseases?	
Yes	97.40%
No	1.20%
I don't know	1.40%
3- Is coronavirus causing death for patients with a chronic disease?	
Yes	94.30%
No	2.50%
I don't know	3.20%
4- Hand-washing with or without soap has the same effect in preventing the spread of coronavirus s	
yes	27.20%
no	70.60%
I don't know	2.20%
5- the incubation period for the coronavirus is 14 days	
yes	90.10%
no	7%
I don't know	2.90%
6- the coronavirus is an airborne viral infection	
yes	40.70%
no	49.90%
I don't know	9.40%
7- We have enough hospitals, doctors and ventilation instruments to face the epidemic coronavirus	
Yes	19.30%
No	59.50%
I don't know	21.10%
8- To prevent spreading of coronavirus s infection, we have to spread information about the disease between our family and friends.	
yes	99.10%
no	0.90%
9- To prevent spreading of coronavirus s infection, we have to spread information about the disease between our family and friends.	
yes	96.80%
no	2.10%
I don't know	1.10%
10- The high temperature in summer may kill the virus.	
yes	63.40%
no	36.60%
11- The Ministry of Health considered the coronavirus s as an infectious disease	
yes	82.50%
no	17.50%

coronavirus symptoms, while a minority answered that they would go to the nearest emergency. A majority of the participants believe that there is no effective treatment or vaccine available for the coronavirus and that early symptomatic treatment can help patients recover from infection; and they will not take any antibiotics or take medicines without consulting a doctor [11].

We noticed that higher educated persons have the ability to obtain knowledge about the disease from different sources, which cannot be easily obtained by low educated ones. [11].

There was an agreement between the participants on the importance for children and young adults to take all measures to prevent infection with coronavirus despite; they are less likely to be infected. [12] Informants also agreed on sterilizing the money with alcohol to prevent the spread of the virus. That indicates the excessive fear of the participants from the disease.

The majority of the participants had good knowledge about the economic effect of the pandemic disease and about the important role of the government, and international organizations to overcome the pandemic. About one-quarter of the participants believed that people consider coronavirus infection a stigma. That may be due to the excessive fear of the disease. Most of the participants trusted the Ministry of Health and WHO in providing fast and reliable data about the number of people infected and

deaths with the coronavirus. They also agreed that we must follow the WHO and the Ministry of Health during this period to limit the spread of coronavirus infection; and agreed with the fact that the media plays a vital role in informing the public of coronavirus infection and virus prevention methods. [10] The majority of the participants answered that there is still unclear information on the fate of this pandemic. In contrast, there was a gap difference in answering the question "Are the results of the virus analysis reliable and reliable for all infected cases?" were 44.8% answered "Yes", 22.8% answered "No" and 32.5% answered, "Maybe". Also more than half of the participants believed that most countries do not have enough hospitals, doctors, and ventilation instruments to face the pandemic coronavirus and more than one-quarter of the participants did not know that the Ministry of Health considered the coronaviruses as an infectious disease. The majority of participants believed that misinformation and rumors spread more quickly than reliable information about the coronavirus [13].

The average score of this survey was 31.83/39. Interestingly, it was found that even in a large country such as Egypt the public awareness was quite high even in this early stage of the pandemic. That could be due to the fact that the pandemic was global. That made the information about it more accessible compared to the previous coronavirus pandemics. [4,14] Future educational messages to increase the awareness of the people should focus on the preventive factors (following the etiquette of coughing, sneezing, or wearing a medical mask . . . etc.) as it may encourage them to adhere strongly to these preventive factors and help in limiting the infection.

Limitations: Unfortunately, due to the isolation, we could not reach participants face to face to do the questionnaire so we had to do it online which was easy to most of the young age compared to old. That is why most of the participants were young.

4.2. Conclusion

The studied participants had good knowledge about coronavirus. With recent outbreaks of this pandemic disease in the world, there is a need for the Ministry of Information to increase the knowledge and awareness of coronavirus.

4.3. Practice implications

Continuous training is needed by the Ministry of Health to the healthcare teams to support their important role in educating and spreading awareness about the coronavirus infection to the public.

Author disclosure statement

No conflict to declare.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

The datasets analyzed during the current study are available from the corresponding author on reasonable request.

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responsibility for the integrity of the data and accuracy of the data analysis.

Declaration of Competing Interest

The authors report no declarations of interest

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NA.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:<https://doi.org/10.1016/j.pec.2020.09.002>.

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