Knowledge and Attitudes Towards COVID-19: A Cross-sectional Study in Portugal

Conhecimentos e Atitudes em Relação à COVID-19: Um Estudo Transversal em Portugal

Keywords: Communication; COVID-19; Health Knowledge, Attitudes, Practice; Knowledge; Portugal
Palavras-chave: Comunicação; Conhecimento; Conhecimentos, Atitudes e Prática em Saúde; COVID-19; Portugal

Dear editor,

Disease-related literacy is critical in shaping practices and controlling the spread of an outbreak of an infectious disease.[1] Unfortunately, the dissemination of inaccurate information undermines those efforts.[1] An endless amount of misinformation about COVID-19 was published in scientific journals and broadcasted in the media. Furthermore, there were interventions from accredited institutions that spread confusion and misbeliefs. Understanding these misbeliefs is essential since they can be debunked using internet resources, like 'COVID-19 advice for the public: Mythbusters' launched by the WHO.[2]

We investigated the knowledge and attitudes towards COVID-19 through a cross-sectional study applying an online survey using 'google forms', and that included 22 questions about socio-demographics, knowledge, and attitudes (Table 1). The questions were applied following initial informed consent. Due to the non-interventional nature of the work and the impossibility of tracking the responses given to the survey, it was considered that there was no need for approval by an Ethics Committee. A total of 1004 responses were collected, 922 of them from residents in Portugal, which we analysed in detail. The median age was 40 years-old, and female respondents were predominant (71.9%). From the overall respondents, 47.4% had a graduate degree and 34.9% were healthcare professionals.

Participants mostly considered having access to quality information – level four in five - and to have good knowledge about the disease – level four in five. Most of them identified fever, cough and shortness of breath correctly as COVID-19 symptoms.

Regarding routes of transmission, many of the participants adequately identified respiratory droplets and fomites; however, a significant proportion exhibited misconceptions, admitting transmission through consuming contaminated food or water, sexual contact, and insect bites. These incorrect ideas were particularly presented by highly educated participants (graduate degree to doctorate) which put them with a classification of level four or five in terms of access to information.

Almost all participants recalled the importance of using masks in closed public spaces, but only 23% considered it was enough to use a surgical mask when contacting with an infected person.

When caring for someone infected, only 1.2% admitted that wearing a mask, gloves and gown would be enough, with most participants considering that the ideal set of protective equipment consists of a mask, eye protection, head and neck cover, gloves, gown, and shoe protection (44.8%). This is probably due to the widespread idea that the more covered you are, the lower the risk of contracting the disease; nevertheless, it should be emphasized that wearing more equipment does not mean we are more protected, we also should use it properly.

Almost all participants took measures to reduce the spread of the disease at home and avoided visits to family members.

Our findings suggest that Portuguese participants have good knowledge and mostly correct attitudes towards the disease; nevertheless, important misconceptions that could perhaps be explained by the spread of misinformation were also identified. The results of our study advocate that education campaigns towards reduction of misbeliefs are urgently needed in order to properly educate the population and reduce the incidence of outbreaks in the most effective way.

Table 1 – Questions and answers about COVID-19 knowledge and attitudes (section 1 of 3)

Questions	Answers	Total No. (%)
Q1. I have access to enough information about COVID-19:	Level 1: No, I don't have access to information or it's of low quality.	2 (0.2%)
	Level 2	7 (0.8%)
	Level 3	140 (15.2%)
	Level 4	438 (47.5%)
	Level 5: Yes, I have access to high-quality information.	329 (35.7%)
Q2. I consider that my knowledge about COVID-19 is:	Level 1: None	2 (0.2%)
	Level 2	10 (1.1%)
	Level 3	189 (20.5%)
	Level 4	556 (60.3%)
	Level 5: Complete and updated	165 (17.9%)

Table 1 – Questions and answers about COVID-19 knowledge and attitudes (section 2 of 3)

Questions	Answers	Total No. (%)
Q3. What are the three symptoms you consider most distinctive of COVID-19?	Fever	810 (87.9%)
	Cough	629 (68.2%)
	Shortness of breath	615 (66.7%)
	Loss of smell	261 (28.3%)
	Sore muscles	130 (14.1%)
	Fatigue	119 (12.9%)
	Headache	114 (12.4%)
	Sore throat	64 (6.9%)
	Diarrhoea	14 (1.5%)
	Nausea and vomiting	6 (0.7%)
	Double vision	2 (0.2%)
Q4. The novel coronavirus can be transmitted:	Talking closely to someone infected (respiratory droplets)	916 (99.3%)
	By contact with contaminated surfaces	799 (86.7%)
	By providing hygiene care to infected people	556 (60.3%)
	Aerosol generating medical procedures (eg. intubation)	495 (53.7%)
	Through the air	302 (32.8%)
	By consuming contaminated food or water	162 (17.6%)
	By sexual contact	147 (15.9%)
	By insect bites	11 (1.2%)
	I don't know	0
Q5. On average, the novel coronavirus survives on surfaces:	Between 6 and 24 hours	321 (34.8%)
	Between 1 and 3 days	289 (31.3%)
	Less than 6 hours	147 (15.9%)
	I don't know	91 (9.9%)
	More than 3 days	74 (8.0%)
Q6. Do you consider that someone infected with COVID-19 but showing no symptoms can transmit the disease?	Yes	907 (98.4%)
	No	15 (1.6%)
Q7. What protective measures would you consider enough to avoid transmission of COVID-19 between two people talking? (multiple answers allowed)	Social distancing	901 (98.1%)
	Face Mask	887 (96.6%)
	Eye protection	176 (19.2%)
	Gloves	61 (6.6%)
Q8. If I am infected with COVID-19:	I must stay at home, isolated from the other inhabitants, staying in at any time	901 (97.7%)
	I must stay at home, staying in at any time, but I can contact the other inhabitants	9 (1.0%)
	I don't have to avoid close contacts or wear a mask	5 (0.5%)
	I must stay at home, but I can contact the other inhabitants and leave the house wearing a mask	1 (0.1%)
	I can contact the other inhabitants of the house and go to work wearing a mask	1 (0.1%)
Q9. When contacting closely with people infected with COVID-19, what mask would you use?	FFP2/N95 Mask	487 (52.8%)
	Surgical mask	212 (23.0%)
	Full face respiratory mask	194 (21.0%)
	Cloth mask	25 (2.7%)
	I don't know	4 (0.4%)
	No mask is required	0

Table 1 – Questions and answers about COVID-19 knowledge and attitudes (section 3 of 3)

Questions	Answers	Total No. (%)
Q10. When caring for people infected with COVID-19, what personal protective equipment would you use?	Mask, eye protection, head and neck cover, gloves, gown, and shoe protection	413 (44.8%)
	Full face mask and full body suit	359 (38.9%)
	Mask, gloves, eye protection and gown	120 (13.0%)
	Mask, gloves, and gown	11 (1.2%)
	I don't know	8 (0.9%)
	Mask only	7 (0.8%)
	Mask and gloves	4 (0.4%)
Q11. Would you know how to wear personal protective equipment?	Yes	649 (70.4%)
	No	272 (29.5%)
Q12. Out of home, everyone should wear a mask.	Yes, in closed public spaces only	575 (62.4%)
	Yes, always	341 (37%)
	No	5 (0.5%)
Q13. Out of home, everyone should wear gloves.	No	775 (84.1%)
	Yes, in closed public spaces only	125 (13.6%)
	Yes, always	20 (2.2%)
Q14. Out of home, everyone should wear eye goggles or face shield.	No	713 (77.3%)
	Yes, in closed public spaces only	187 (20.3%)
	Yes, always	22 (2.4%)
Q15. When in a family dinner between family members not living together:	Everyone should wear a mask except during the meal, always keep social distancing and wash frequently their hands	844 (91.5%)
	Only the elder and sick people need protective measures	39 (4.2%)
	Everyone should wear mask and gloves and is therefore not necessary to maintain social distancing	18 (2.0%)
	No protective measures are required	14 (1.5%)
Q16. To avoid infection at home, I adopted as attitudes:	I wash my hands as soon as I arrive home	870 (94.4%)
	I sanitize my personal objects (eg. cell phone)	724 (78.5%)
	I leave my footwear outside the house	648 (70.3%)
	I sanitize my groceries and mail	465 (50.4%)
	I created a division at home between "dirty area" and "clean area"	418 (45.3%)
	I didn't change my behaviour at home	6 (0.7%)
Q17. During the COVID-19 pandemic:	I avoided and continue to avoid visiting elderly or sick family members	349 (37.9%)
	I avoided and continue to avoid visiting all family members	335 (36.3%)
	I avoided visiting family members, but I now resumed visiting all family members	228 (24.7%)
	I never stopped visiting family members	9 (1.0%)

REFERENCES

1. Torre G, Lia L, Dorelli B, Marte M, Chiappetta M, Faticoni A, et al. How much do young Italians know about COVID-19 and what are their attitudes towards the Sars-CoV-2? Results of a cross-sectional study. Disaster Med Public Health Prep. 2020;1-7.
2. World Health Organization. Coronavirus disease (COVID-19) advice for the public: Mythbusters 2020. [accessed 2020 Aug 12]. Available from: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/myth-busters.
3. World Health Organization. COVID-19 Strategic Preparedness and Response Plan. Operational Planning Guidelines to Support Country Preparedness and Response. Geneva: WHO; 2020.

Olga PIRES[1*], Ana Andrade OLIVEIRA✉[1*], Pedro MOREIRA[2*], André SANTA-CRUZ[1,3], Alexandre CARVALHO[1,3], Joana ALVES[4]

*Joint first authors. All three authors contributed equally.

1. Department of Internal Medicine. Hospital of Braga. Braga. Portugal.
2. Department of Anaesthesiology. Hospital of Braga. Braga. Portugal.
3. Life and Health Sciences Research Institute. School of Health Sciences. University of Minho. Braga. Portugal.
4. Department of Infectious Disease. Hospital of Braga. Braga. Portugal.

Autor correspondente: Ana Andrade Oliveira. anaandradeoliveira100@gmail.com

Recebido: 04 de fevereiro de 2021 - **Aceite:** 26 de fevereiro de 2020 - ***First published*:** 07 de abril de 2021 - ***Online issue published*:** 03 de maio de 2021

https://doi.org/10.20344/amp.15887