Self-Efficacy on the Coronavirus Disease-2019 (COVID-19)

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Research Article

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Abstract

Background

Nowadays, COVID-19 constitutes a significant portion of the global burden of the diseases. Self-efficacy beliefs in disease management refer to individuals' confidence and certainty in their ability to successfully perform specific health-related behaviors. The aims of the study were: (i) to develop the COVID-19 Self-Efficacy Scale (COVID-19SES), and (ii) to investigate the impact of self-efficacy on COVID-19.

Methods

This was a descriptive cross-sectional study. A convenience sample of 66 medical students was recruited. The COVID-19SES was administered to the students.

Results

Only 9 students (13.6%) chose statement 1 of the COVID-19SES, indicating a lack of knowledge and low self-efficacy; 9 students (22.73%) chose statements 3 and 4, indicating adequate knowledge but low self-efficacy. Of the students, 42 (63.6%) endorsed the statement 5, indicating adequate knowledge and high self-efficacy. Only 9 students (13.6%) chose statement 1 of the COVID-19SES, indicating a lack of knowledge and low self-efficacy; 9 students (22.73%) chose statements 3 and 4, indicating adequate knowledge but low self-efficacy. Of the students, 42 (63.6%) endorsed the statement 5, indicating adequate knowledge and high self-efficacy.

Conclusions

This study provides evidence for the usefulness of the COVID-19SES for assessing self-efficacy in students. Twenty-four students (36.4%) reported low COVID-19 self-efficacy, and education is necessary to promote self-efficacy in health-related matters during the COVID-19 pandemic.

Introduction

Nowadays, Coronavirus Disease-2019 (COVID-19), named Severe Acute Respiratory Syndrome Coronavirus *2* (SARS- Co), constitutes a significant portion of the global burden of the diseases (World Health Organization (WHO; 2020). The prevalence of COVID-19 is high in the most countries (Nourizadeh et al., 2020; Moghadasi, 2020).

The concept of self-efficacy was proposed by Albert Bandura, a Canadian-American psychologist, and it is one of the main concepts in social cognitive theory (SCT). Self-efficacy is an individual's belief in empowerment with regard to performing self-care behaviors in specific conditions (Bandura, 1977, 1982, 1997). Self-efficacy acts as a part of individual's essential skills and is an important prerequisite for effective behavior ((Bandura, 1986, 2008).

Self-efficacy has a major role in people's health-related behaviors. Self-efficacy beliefs in disease management refer to individuals' confidence and certainty in their ability to successfully perform specific health-related behaviors (Bandura, 2000, 2004, 2006). A person's perception of self-efficacy is the strongest predictor of the ability to make changes in high-risk behaviors. People with higher self-efficacy are more likely to care themselves and are more successful in avoiding the diseases (Gutiérrez-Doña et al., 2009; Schwarzer, 2008).

People with higher education have higher self-efficacy, more knowledge and a stronger belief in their abilities (Bandura, 1993; Cheng, 2020; Shim, 2018; van Dinther et al., 2011; Zhou et al., 2020). Baloran and Hernan (2020) found that crisis self-efficacy predicted work commitment among Filipino teachers during COVID-19 pandemic. Hernández-Padilla et al. (2020) indicated that research on the self-efficacy is necessary for adopting preventive behaviors to avoid COVID-19 contagion and spread. Self-efficacy has a protective role for resilience in the COVID-19 outbreak (Kövesdi et al., 2020).

Given the risk of COVID-19, assessing self-efficacy has importance in order to advance the prevention and management of the disease. The aims of the present study with Iranian medical students were: (i) to develop the Coronavirus (COVID-19) Self-Efficacy Scale (COVID-19SES), and (ii) to investigate the impact of self-efficacy on COVID-19. This was the first study on the topic in Iran.

Methods

Participants

This was a descriptive cross-sectional study. A convenience sample of Iranian medical students was recruited in July 2020. The sample size was calculated using Cochran's formula. The COVID-19SES was administered to 130 students who were resident in three student dormitories at the Iran University of Medical Sciences. The study received Institutional review board approval. A verbal consent was obtained from the students. The students were invited to participate voluntarily in the study. The objective of study was explained to the students. A total of 97 students (74.62%) returned the scale, but 28 of these students (28.87%) did not complete the scale and were excluded. The results are based on 66 students. Data were analyzed using SPSS version 26.

Measures

The Coronavirus (COVID-19) Self-Efficacy Scale (COVID-19SES).

The COVID-19 SES is a single item self-report scale containing five statements as choices, based on the SARS Self-Efficacy Scale developed by Ho et al. (2005). Self-efficacy was indicated by students' sense of control over avoiding coronavirus disease (COVID-19). The content validity of the scale was confirmed by two experts. Students were asked to choose one of the statements (see Appendix A).

Results

The mean age of students was 24.22 (*SD* = 2.44); 66.7% female; all participants were studying in a general physician (GP) program. Only 9 students (13.6%) chose statement 1 of the COVID-19SES, indicating a lack of knowledge and low self-efficacy; 9 students (22.73%) chose statements 3 and 4, indicating adequate knowledge but low self-efficacy. Of the students, 42 (63.6%) endorsed the statement 5, indicating adequate knowledge and high self-efficacy.

Discussion

Twenty-four students (36.4%) reported low COVID-19 self-efficacy. There is a very little literature on the topic. Al- Qahtani et al. (2020) found that 45 9% of the Najran university students had moderate self-efficacy, and 22 9% had low self-efficacy to deal with the COVID-19 pandemic. Using an online survey, Baloran (2020) reported that on the Filipino students had a sufficient knowledge and high-risk perceptions during COVID-19 pandemic. Using the adaptation of the Specific Perceived Self-Efficacy Scale in Confinement Situations by COVID-19 (ASPS-COVID-19), Alemany-Arrebola et al. (2020) found that perceived academic self-efficacy significantly negative correlated with anxiety in Spanish university students during COVID-19. Using generalized self-efficacy scale (GSES), Wang et al. (2020) found that self-efficacy positive correlated with the professional identity and negative correlated with the acute stress in Chinese nursing students during COVID-19 pandemic. The study of Yıldırım and Güler (2020) on the Turkish adults showed that mental health was predicted by COVID-19 severity, self-efficacy, knowledge, and preventive behaviors. Their study was conducted using online survey, and self-efficacy related to COVID-19 was assessed only by applying a single- item scale: “How confident are you that you can prevent getting COVID-19 in case of an outbreak?”. Haverback (2020) stated that self-efficacy has an important role for teachers and they should build their self-efficacy beliefs while virtual teaching during the COVID-19 pandemic. Xionget al. (2020) found that self-efficacy significantly negative correlated with anxiety, but no with depression, in Chinese nurses. Tabernero et al. (2020) reported that self- and collective efficacy significantly correlated with coping behaviors with COVID-19 among Spanish people.

The present study had some limitations. First, it is based on a convenience sample of university students, and the findings were based only on Iranian students. Second, this is a cross-sectional design. Third, the sample size was low. Fourth, because of the lack of other similar measures, the concurrent and criterion validities of the COVID-19SES was not assessed.

Conclusions

This study provides evidence for the usefulness of the COVID-19SES for assessing self-efficacy in Iranian students and in non-clinical settings. Twenty-four students (36.4%) reported low COVID-19 self-efficacy, and education is necessary to promote self-efficacy in health-related matters. Findings provide evidence for self-efficacy promotion programs and successful implementation of preventive health behavior programs during the COVID-19 pandemic.

Declarations

- Ethical approval and consent to participate

This study was performed in line with the principles of the Declaration of Helsinki. Ethical approval was obtained from the Institutional Review Board (without committee's reference number) at Iran University of Medical sciences, Iran, for the study. All participants provided verbal informed consent. The reason was being in critical situation of COVID-19 pandemic and the Institutional Review Board approved this procedure.

- Consent for publication

Not Applicable

- Availability of supporting data

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

- Competing interests

The authors declare that they have no conflict of interest regarding the publication of this paper.

- Funding

No funding was received.

- Authors' contribution

Mahboubeh Dadfar (Conceptualization; Data curation; Formal analysis; Methodology; Project administration; Validation; Writing – original draft; Writing – review & editing) Siyamak Sanadgol (Methodology; Project administration; Validation; Writing – original draft).

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- AppendixA.docx