

Perceptions of risk and intention to
comply with COVID-19 precautionary
measures among the general population:
a comparative Middle East perspective

**Mahmoud A. Shahin, Al-Ghad International
Colleges for Applied Medical Sciences, Saudi
Arabia**

Background

- COVID-19 outbreak, caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), appears to have originated in Wuhan, China, in December 2019, but it has spread dramatically, both inside and outside of China, and has grown to become an exceptional, global, public health problem.
- On 30 January 2020, the World Health Organization (WHO) declared the outbreak of COVID-19 to be a global public health emergency.

- To combat the spread of COVID-19, various preventive and control measures, at different levels, have been employed by various countries, around the world. Following the WHO declaration, the Kingdom of Saudi Arabia have implemented response plans to counter the pandemic and contain the viral spread, including the suspension of all inbound and outbound flights, closing all shops, malls, and stores in the country except for pharmacies and grocery stores, and closing down all educational institutions, schools, and universities. Umrah visas for Muslims have been suspended, as have prayers at mosques including the two Holy Mosques in Makkah and Al-Madina.

- Also, the Jordanian Ministry of Health has taken various preventive and control measures, at different levels, to combat the spread of COVID-19 such as the maintenance of at least 6 feet of social distance between individuals, frequent hand-washing, the frequent use of hand sanitizers and alcohol hand rubs, practicing coughing and sneezing etiquette, avoiding handshaking and kissing, avoiding direct contacts with sick persons, and wearing face masks under specific conditions.
- The extent to which these measures are practical, suitable, and applicable for the population depends upon other factors, including individuals' perceptions of the threat of suffering negative and dangerous health consequences associated with the infection represented by risk perception.

- On the other side of the coin, the socioeconomic circumstances in Africa are extremely less well-developed and often worse than in other nations. A collection of factors, including the shortage of medical supplies, a lack of medical services, poor general health conditions, and decreased virus testing amount and efficiency and the dry season that may facilitate the spread of the epidemic in African countries.

Significance of the study

- Risk perception plays a major role in estimating the extent of community awareness regarding the seriousness of this pandemic and the extent of the willingness to cooperate in the implementation of health preventive measures, at the individual, local, and international levels.
- We aimed to assess the risk perception toward COVID-19 of a large sample population utilizing a comparative study design to examine countries in the Middle East region that are accessible to the researchers including Egypt, Jordan, and Saudi Arabia.

Methods

- A descriptive, cross-sectional, comparative research design was utilized. A convenience sample of 723 individuals from among the general population was recruited for this comparative study, from Saudi Arabia (468 participants), Egypt (162 participants), and Jordan (93 participants).
- The data collection questionnaire consisted of two sections. The first section consisted of a sociodemographic data collection sheet, and the second section was the “Standard questionnaire on risk perception of an infectious disease outbreak” modified to COVID-19 and translated into Arabic. The validity and reliability of the questionnaire were tested and deemed to be valid and reliable tool.
- Potential respondents were invited to participate in the study remotely, using a Google Forms-prepared questionnaire. The survey was sent to interested participants via various social media applications over 15 days (16 to 30 April 2020).

COVID-19 Risk Perception questionnaire content

1. Participant's knowledge.
2. Perception of the seriousness of COVID-19.
3. Perception of susceptibility to COVID-19 and the extent of anxiety.
4. Perception of self-efficacy in dealing with COVID-19.
5. Intention to perform preventive measures against COVID-19.
6. Motivating/hindering factors of the preventive measures.
7. COVID-19 Information needs assessment

Results

Perception of the seriousness of COVID-19		n	%
How serious do you think COVID-19 is?	Not at all serious	3	0.4%
	Not serious	9	1.2%
	Slightly serious	75	10.4%
	Serious	321	44.4%
	Very serious	315	43.6%
How would you feel if you contracted COVID-19 in the near future?	Not at all serious	6	0.8%
	Not serious	51	7.1%
	Slightly serious	135	18.7%
	Serious	294	40.7%
	Very serious	237	32.8%

Perception of the seriousness of COVID-19		Saudi Arabia	Egypt	Jordan	Total	Kruskal-Wallis Test	P-value
		n = 468	n = 162	n = 93	N = 723		
How serious do you think COVID-19 is?	M ± SD	4.42 ± 0.6	4.11 ± 0.7	4 ± 0.956	4.29 ± 0.7	Chi-Square = 28.941742	< .001**
	Mean Rank	31	88	35			
How would you feel if you contracted COVID-19 in the near future?	M ± SD	4.03 ± 0.9	3.96 ± 0.9	3.71 ± 1.0	3.98 ± 0.9	Chi-Square = 8.221587	.016*
	Mean Rank	17	05	28	34		
Mean perception of seriousness scores	M ± SD	4.224 ± 0.	4.037 ± 0.	3.854 ± 0.	4.134 ± 0.	Chi-Square = 18.326	< .001**
	Mean Rank	68	74	88	73		
		384.7019	333.44	297.5			

Perception of susceptibility to Coronavirus COVID-19 and extent of anxiety	n	%	
Do you think that you will contract COVID-19 in the coming year if you do not take any preventive measures?	Certainly not	27	3.7%
	Probably not	63	8.7%
	Perhaps yes-perhaps no	345	47.7%
	Probably yes	141	19.5%
	Most certainly	147	20.3%
Suppose you have not been vaccinated against COVID-19 or the vaccine is not available. What do you think your chance of contracting the disease in the coming year is?	Very small chance	60	8.3%
	Small chance	90	12.4%
	Not small - not large	288	39.8%
	Large chance	228	31.5%
	Very large chance	57	7.9%
How concerned are you about contracting COVID-19?	Not at all concerned	30	4.1%
	Not concerned	48	6.6%
	Slightly concerned	267	36.9%
	Concerned	252	34.9%
	Very concerned	126	17.4%

Perception of efficacy and self-efficacy

	Most certainly	
	n	%
1. Do you think that frequent hand hygiene helps to prevent COVID-19?	483	66.8%
2. Do you think that wearing masks helps to prevent COVID-19?	231	32.0%
3. Do you think that maintaining social distancing helps to prevent COVID-19?	528	73.0%
4. Do you think that quarantine helps to prevent COVID-19?	567	78.4%
5. Do you think that you will manage to implement hand hygiene, if this is advised?	549	75.9%
6. Do you think that you will manage to implement mask-wearing, if this is advised?***	441	61.0%
7. Do you think that you will manage to implement social distancing, if this is advised?***	489	67.6%
8. Do you think that you will manage to implement quarantine, if this is advised?***	522	72.2%

Intention to implement preventive measures		Saudi Arabia (n = 468)		Egypt (n = 162)		Jordan (n = 93)		Total (N = 723)	
		n	%	n	%	n	%	n	%
		Would you implement COVID-19 preventive measures, if this was advised?	Certainly not	3	0.6%	0	0.0%	0	0.0%
Probably not	0		0.0%	0	0.0%	0	0.0%	0	0.0%
Perhaps yes- perhaps no	9		1.9%	21	13.0%	3	3.2%	33	4.6%
Probably yes	54		11.5%	51	31.5%	18	19.4%	123	17.0%
Most certainly	402		85.9%	90	55.6%	72	77.4%	564	78.0%

Correlation		Mean perceived seriousness scores	Mean Self- Efficacy scores
Mean perceived seriousness scores	Pearson's Correlation	1	.366**
	Sig. (2-tailed)		< .001
	N	723	723
Mean Self-Efficacy scores	Pearson's Correlation	.366**	1
	Sig. (2-tailed)	< .001	
	N	723	723

Question	Motivating/hindering factors	n	%
Q1-Why would you be willing to perform the preventive measures mentioned?	I am often ill	54	7.5%
	COVID-19 can be serious	384	53.1%
	I feel responsible for my health	447	61.8%
	I think I am at risk for contracting COVID-19	147	20.3%
	I want to prevent the contraction of COVID-19	318	44.0%
	I want to prevent transferring COVID-19 to people around me	417	57.7%
	I trust that the measures help	213	29.5%
	The authorities advise it, so I will do it	192	26.6%
	If I do not take these measures, I may regret it later	144	19.9%
	Other people in my environment will also perform these measures	42	5.8%
	Not Applied to me	3	0.4%
Q2-Why would you not be willing to perform the preventive measures mentioned?	I am never ill	27	3.7%
	COVID-19 is not serious	78	10.8%
	I do not find it important	39	5.4%
	I am not worried about my health	30	4.1%
	I do not think I am at risk of contracting COVID-19	81	11.2%
	I do not think that I would transfer the virus to others	72	10.0%
	I doubt whether the measures help	99	13.7%
	Takes too much effort (cost, time, etc.)	204	28.2%
	People in my environment will not perform these measures	198	27.4%
	I feel that too little information is provided about the measures	120	16.6%
	For principle reasons (e.g., Religion or other)	57	7.9%
	Not Applied to me	279	38.6%

Question	COVID-19 Information needs	n	%
Q1-What are the most important topics that you desire information for, at this time?	How COVID-19 is transmitted	270	37.3%
	What is the incubation time for COVID-19	309	42.7%
	What are the symptoms of COVID-19	231	32.0%
	What can you do to prevent contracting COVID-19	360	49.8%
	The chances that you will contract COVID-19	153	21.2%
	The chances that COVID-19 is serious	150	20.7%
	How COVID-19 can be treated	420	58.1%
	I do not need any information	54	7.5%
Q2-Who would you like to provide you with this information about COVID-19 updates?	General practitioner	261	36.1%
	Public Health Service	390	53.9%
	National authorities (for example, the Ministry of Health)	648	89.6%
	I don't know	39	5.4%

Conclusion

- The perception of COVID-19 seriousness was significantly higher among participants from Saudi Arabia and the perception of susceptibility to COVID-19 and the extent of anxiety among Saudi Arabians were also high compared with participants from Egypt and Jordan. In contrast, participants from Egypt had a lower perception of efficacy and self-efficacy for dealing with COVID-19 and performing preventive measures.
- A significant positive correlation was detected between participants' perception of COVID-19 seriousness and their self-efficacy to handle COVID-19, across the whole sample. The general public requires information regarding COVID-19 treatment, disease prevention methods, and the incubation period of the novel coronavirus from reliable resources, such as the ministry of health and local authorities.

Recommendations

- Communications via various channels designed to promote the adoption of preventive behaviors among the public should focus on raising the public's perceptions of disease seriousness and promote the effectiveness of adopting behavioral measures in order to improve the self-efficacy of COVID-19 outbreak control. Health education programs that aim to improve COVID-19 knowledge and perception are recommended to increase public awareness and compliance with advised preventive measures. The development of structured psychological interventions is necessary to support the population and to combat the psychological impacts and anxieties associated with the COVID-19 pandemic.

Reference

- Shahin, M. A. H., & Hussien, R. M. (2020). Risk perception regarding the COVID-19 outbreak among the general population: a comparative Middle East survey. *Middle East Current Psychiatry*, 27(71), 1-19.
<https://doi.org/10.1186/s43045-020-00080-7>
- **Link to the questionnaire: (Bilingual)**
- https://www.researchgate.net/publication/347828822_Risk_perception_regarding_the_COVID-19_outbreak_among_the_general_population_a_comparative_Middle_East_survey