



GENDER DIFFERENCES IN AWARENESS ABOUT COVID-19 INFECTION AMONG EDUCATED COMMUNITY MEMBERS

Medical Science

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ABSTRACT

This cross-sectional descriptive online interview-based study was conducted on 374 respondents (179 females: 47.86% and 195 males: 52.14%) to determine the gender differences in awareness about COVID-19 infection during the lockdown in May 2020. A pre-tested and pre-validated questionnaire was administered via Google forms using the chain sampling technique to adult respondents, of either gender. Significant gender differences were observed in awareness of high-risk groups (elderly and co-morbidity) and the duration of isolation. This study revealed adequate levels of awareness among the respondents, though the levels of awareness was lower among the elderly, less educated, and lower income groups. This was probably because this online interview-based study was conducted during the lockdown when information on the disease was widely publicised through mobile phone ring tones, print, electronic and social media. Use of different modes of communication may help create awareness among groups with lower levels of awareness.

KEYWORDS

Awareness, Community, Corona virus, Covid-19, Gender differences

INTRODUCTION

Coronaviruses belong to a large family of single-stranded RNA viruses, which can cause illness ranging from a common cold to severe symptoms. [1] The clinical symptoms of COVID-19 include fever, cough, fatigue, malaise, and dyspnoea. [2] The main transmission routes for COVID-19 include *droplets transmission*, *contact transmission* and *aerosol transmission*. *Droplets transmission* may occur when respiratory droplets (released by an infected person by coughing or sneezing) are ingested or inhaled by individuals nearby in close proximity; *contact transmission* may occur when a subject touches a surface or object contaminated with the virus and then touch their mouth, nose, or eyes; and *aerosol transmission* may occur when respiratory droplets form aerosols and are inhaled into the lungs in a relatively closed environment. [3] The digestive system has also been implicated as a potential transmission route for COVID-19 infection, which manifests as abdominal discomfort and diarrhoea. [4]

The aged population and persons with co-morbidities are more likely to get infected and are more vulnerable to serious complications, which may be associated with acute respiratory distress syndrome (ARDS), septic shock, severe metabolic acidosis, bleeding and coagulation dysfunction, [5] and cytokine storm. [6] Till date, there is no proven remedy or vaccination against COVID-19 infection. Strong infection control measures are the primary intervention to minimize the spread of the virus in both health care settings and the community. [7] Therefore, management of the outbreak depends primarily on people's compliance to infection control measures. Compliance is primarily determined by knowledge, attitudes, and practices (KAP) of the public. [8] The lessons learned from the SARS outbreak in China in 2003 imply that knowledge and attitudes towards infectious diseases can alter attempts to prevent the spread of the disease. [9]

Stigmatization, panic reactions and non-scientific "interventions" to avoid infection have an adverse impact on outbreak control. [8]

A study [10] conducted in Maharashtra State, India found that significantly higher number of females respondents had indoor-based hobbies, as compared to their male counterparts, some of whom reported that they craved for outdoor activity during the lockdown. A significant gender difference in concentrating on work or studies, worrying about the future and experiencing monotony and restlessness has also been reported. [10]

The objective of this study was to determine the gender differences in awareness about COVID-19 infection during the lockdown in May 2020.

MATERIALS AND METHODS

This cross-sectional descriptive study was conducted during the coronavirus lockdown in May 2020. The study was conducted using the chain sampling technique wherein a pre-tested and pre-validated questionnaire was administered via Google forms to adult respondents, of either gender. Informed consent was taken on the Google forms. The data were adapted to Microsoft Excel spreadsheet (Microsoft Corporation, Redmond, WA, USA) and analyzed using SPSS statistical software Windows Version 25.0 (IBM Corporation, Armonk, NY, USA). The percentage of responses and the standard error of difference between two sample proportions were calculated. The statistical significance was determined at $p < 0.05$.

RESULTS AND DISCUSSION

There were a total of 374 respondents (179 females: 47.86% and 195 males: 52.14%). Female respondents in the 31+ age group and married females outnumbered their male counterparts. (Table-1).

Table-1: Gender differences in socio-demographic parameters of respondents

Parameter		Females (n=179)	Males (n=195)	Z value	'p' value
Age group (years)	18-30	149 (83.24%)	174 (89.23%)	1.686	0.091
	31 +	30 (16.76%)	21 (10.77%)	1.686	0.091
Marital status	Single	147 (82.12%)	173 (88.72%)	1.812	0.070
	Married	32 (17.88%)	22 (11.28%)	1.812	0.070
Members in household	<3 members	25 (13.97%)	40 (20.51%)	1.668	0.094
	3+ members	154 (86.03%)	155 (79.49%)	1.668	0.094
Educational status	Up to 12 th Std	33 (18.44%)	11 (05.64%)	3.836	0.0001 *
	Undergraduate	104 (58.10%)	141 (72.31%)	2.887	0.003 *
	Graduate+	42 (23.46%)	43 (22.05%)	0.325	0.741
Occupation	Service	16 (08.94%)	31 (15.90%)	2.028	0.042 *
	Homemaker	25 (13.97%)	...	5.402	<0.0001 *
	Retired	...	04 (02.05%)	1.926	0.053

	Student	138 (77.09%)	160 (82.05%)	1.189	0.234
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Z = Standard error of difference between two proportions; * Significant

In a COVID-19 awareness survey conducted in Egypt in March 2020, nearly two thirds (62.3%) were females. [2] The gender differences in educational status and occupation were statistically significant. (Table-1). Other studies [2, 8] have also reported that awareness about COVID-19 was significantly less among the elderly, those with less education, rural inhabitants and those with lower income levels.

Table-2: Gender differences in knowledge of common & uncommon symptoms

Parameter	Females (n=179)	Males (n=195)	Z value	'p' value
Fever	171 (95.53%)	177 (90.77%)	1.808	0.070
Infection may occur without fever	156 (87.15%)	173 (88.72%)	0.465	0.638
Dry cough	163 (91.06%)	174 (89.23%)	0.592	0.555
Muscle pain	128 (71.51%)	147 (75.38%)	0.848	0.395
Stuffy nose	137 (76.54%)	144 (73.85%)	0.601	0.548
Running nose	155 (86.59%)	153 (78.46%)	2.060	0.039 *
Sneezing	156 (87.15%)	162 (83.08%)	1.103	0.271

Z = Standard error of difference between two proportions; * Significant

As shown in Table-2, only for one symptom (running nose), there was gender difference in awareness (Z=2.060, p=0.039). Similarly significant gender differences were observed in awareness of high-risk groups (elderly and co-morbidity) and the duration of isolation as per the rules in force at that time (Table-3). The high levels of awareness for both common and uncommon symptoms is probably because this study was conducted in May 2020 when the lockdown was fully enforced and information on the disease was widely publicised through mobile phone ring tones, print, electronic and social media.

Table-3: Gender differences in awareness about disease transmission and prevention

Parameter	Females (n=179)	Males (n=195)	Z value	'p' value
High risk: Contact with wild animals	151 (84.36%)	152 (77.95%)	1.578	0.114
High risk: Elderly, co-morbidities	154 (86.03%)	186 (95.38%)	3.142	0.001 *
Transmission is via respiratory droplets	164 (91.62%)	179 (91.79%)	0.006	0.952
Medical mask is protective for public	167 (93.30%)	172 (88.21%)	1.688	0.091
Avoid crowded places	174 (97.21%)	184 (94.36%)	1.359	0.173
Isolation to prevent spread	171 (95.53%)	183 (93.85%)	0.723	0.471
Isolation is for 14 days	175 (97.77%)	181 (92.82%)	2.231	0.025 *

Z = Standard error of difference between two proportions; * Significant

CONCLUSION

This study reveal adequate levels of awareness among the respondents, though the levels of awareness was lower among the elderly, less educated, and lower income groups. Acquisition of awareness through mobile phone ring tones, print, electronic and social media has its own merits and demerits. Use of different modes of communication may help create awareness among groups with lower levels of awareness. Awareness programmes for the general public should also include guidelines on obtaining news only from credible news sources and finding leisure activities to keep busy.

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