The prevalence of coronaphobia among nursing staff in Saudi Arabia

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ABSTRACT

Background: Nursing staff are in direct contact with the consequences of the current *coronavirus* disease 2019 (COVID-19) crisis. **Design and Methods:** Descriptive questionnaire-based cross-sectional survey of a sample of nursing staff working across Saudi Arabia. **Results:** The study included (n = 431) nursing professionals. Coronaphobia prevalence among the nursing staff was 80.3% [95% confidence interval (CI): 76.5–84%]. There were (36.7%) who had severe cornaphobia. Working in a clinical department and being Saudi national were associated with increased COVID-19 fear (estimate = 0.109, P = 0.0153 and P = 0.010, respectively). **Conclusion:** Hospital management in Saudi Arabia needs to acknowledge the high prevalence of coronaphobia during the current COVID-19 crisis among nursing staff.

Keywords: Coronaphobia, fear of COVID-19, nursing staff, Saudi Arabia

Introduction

Coronavirus disease 2019 (COVID-19) pandemic was associated undoubtedly with substantial fear, worry, and depressive psychological repercussions among healthcare professionals and the public.[1] Expectedly, fear of disease, increased worry, and inability to tolerate uncertainty lead to significant detrimental COVID-19-associated mental health impact.[2,3] Nursing staff work in the frontline healthcare system and are particularly vulnerable to COVID-19, therefore are at increased risk for coronaphobia; i.e. excessive fear of contracting COVID-19 that is associated with significant socio-occupational dysfunction.[4]

The main objective of the current study was to estimate the prevalence and associated factors of coronaphobia among nursing staff practicing in Saudi Arabia.

Method

Study design

We conducted a cross-sectional questionnaire-based descriptive survey of a large sample of nursing staff practicing during the COVID-19 pandemic in Saudi military hospitals, concluded between August and September 2020. All nursing staff were invited to take part in completing The Fear of COVID-19 scale that was provided to nursing staff in each hospital site via a unique link to the online research site. Each hospital was assigned a research team representative that met with nursing staff and explained the aim and practicality of the study before making a formal invitation to participate. The article was approved by the Research and Ethics Committee in Al-Hada Military Hospital in Taif (Project No. 2020-9, Date approved: 2/8/2020, Series 2020).

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Written agreement was obtained online from all participants before their engagement with the survey.

Setting

The study included a large sample of nursing staff practicing during the COVID-19 pandemic in Saudi military hospitals.

Fear of COVID-19 scale

This is a seven-item scale developed in the wake of the COVID-19 pandemic.[5] Each item has a potential maximum score of 5 and the total has a potential maximum of 35. A 16.5 cutoff was proposed for a diagnosis of coronaphobia.[6] This is consistent with the DSM-V categorization of phobic anxiety that requires at least four symptoms for a confident diagnosis (namely, excessive fear, immediate anxiety, distressing avoidance, and recognition of irrationality), we set the cutoff to exceed 16 of 35 for a mild coronaphobia case and to exceed 22 for a moderate coronaphobia case and to exceed 29 for severe coronaphobia.

Data analysis

Data were analyzed using the R-Statistical Software version 3.4.1. To explore the effect of the adjusted background factors (namely gender, age, experience, marital status, nationality, degree, and work department) on the Fear of COVID-19 score, we modeled the data using multiple linear Poisson regression. The level of significance was set at $P < 0.05$.

Results

The study included ($n = 431$) nursing professionals, mostly from the Western region in Saudi Arabia, $n = 158$, (36.2%). There was $n = 328$ (76.1%) nurses working in a clinical department, $n = 241$, (55.9%) married, $n = 235$ (53.8%) with a university degree, $n = 361$ (82.6%) females, and $n = 405$ (94%) non-Saudis. Some $n = 214$ (49%) had direct contact with COVID-19 patients. [Table 1] shows details of the basic demographic factors in the participating nursing staff.

The total estimate for coronaphobia among the nursing staff was 80.3% [95% confidence interval (CI): 76.5–84%]. There were $n = 85$ (19.7%) who had mild coronaphobia, $n = 142$ (32.9%) who had moderate coronaphobia, and $n = 158$, (36.7%) who had severe coronaphobia. See [Figure 1].

Even after adjusting for the effect of all other factors, working in a clinical department was associated with increased COVID-19 fear (estimate = 0.109, $P = 0.0153$). Also risk of coronaphobia was increased among Saudi nursing staff (estimate = 0.134, $P = 0.010$). Being widowed was associated with less fear of COVID-19 (estimate = 0.068, $P = 0.002$).

See [Table 2 and Figure 2].

Table 1: Baseline occupational and demographics of the study participants

Factor	Count (*n*)/mean	Percentage/SD
Gender		
Males	70	16.2%
Females	361	83.8%
Age	35.6 years (22 to 60 years)	7.3 years
Offspring count	0.98 kids (0 to 6 children)	1.1 kids
Department		
Administration	34	7.9%
Clinical	328	76.1%
Clinical-COVID	28	6.5%
ICU	47	10.9%
Nationality		
Saudi	26	6%
Non-Saudi	405	94%
Marital Status		
Married	241	55.9%
Single	179	41.5%
Divorced	8	1.9%
Widow	3	0.1%
Education		
Diploma	166	38.5%
Postgraduate	30	7%
University	235	54.5%
Region		
Central	53	12.3%
Eastern	25	5.8%
Northern	135	31.3%
Southern	60	13.9%
Western	158	36.7%
COVID-19 Contact	214	49.7%

Table 2: The adjusted effect of background factors on the coronaphobia risk

Factor	Estimate	SE	Z	P
Education: Postgraduate	-0.0454319	0.0484162	-0.9384	0.348059
Education: University	0.0204358	0.0226505	0.9022	0.366938
Department: Clinical	0.1085995	0.0448008	2.4241	0.015348
Department: COVID	-0.0104646	0.0637632	-0.1641	0.869639
Department: ICU	0.0863838	0.0578188	1.4940	0.135164
Kids	-0.0002263	0.0128927	-0.0176	0.985996
Age	0.0013700	0.0017596	0.7786	0.436208
COVID contact	0.0168197	0.0237947	0.7069	0.479648
Gender: Male	0.0056138	0.0310749	0.1807	0.856639
Nationality: Saudi	0.1335561	0.0518567	2.5755	0.010010
Marital: Married	-0.1418843	0.0785135	-1.8071	0.070742
Marital: Single	-0.0988151	0.0810064	-1.2198	0.222525
Marital: Widow	-0.5476535	0.1753439	-3.1233	0.001788
Region: Eastern	0.0678304	0.0535249	1.2673	0.205060
Region: Northern	-0.0168721	0.0377558	-0.4469	0.654967
Region: Southern	0.0182749	0.0437189	0.4180	0.675940
Region: Western	0.0386179	0.0374680	1.0307	0.302687
Gender*Nationality Interaction	-0.3811130	0.1305384	-2.9195	0.003505

Discussion

The results from our survey reveal an increased coronaphobia among frontline nursing professionals in Saudi Arabia. Almost four in five had some level of coronaphobia and one

in three had severe coronaphobia. This high prevalence of coronaphobia among nursing staff could well be related to the unforeseen realistic occupational stress caused by handling COVID-19 patients with different severity presentations and unending uncertainty regarding contracting COVID-19 from whoever presents in the workplace.[7] In addition, nursing staff are subjected during the pandemic to new clinical restrictions and guidance. These changes related to protective equipment, hygienic measures, and scrupulous hand washing put a substantial strain on cognitive reserve and would potentially initiate a vicious loop of discomfort, fear, and anxiety.[8]

The main risk factors were being Saudi and working in a clinical ward. Saudi national nursing staff could easily fall for the social amplification of COVID-19 risk as they would be perceived by their families as potential source of severe COVID-19 infection.[9]

This is far more than their non-Saudi colleagues who would usually live together with their colleagues in special housing compounds with less intense social interactions outside their working hours.

Primary care physicians should be aware of the high level of fear among nursing staff during the current COVID-19 crisis. Intuitively, nursing staff working in primary care facilities are susceptible to coronaphobia that may not be obvious to their physician colleagues. They should be supported by their family physicians. Furthermore, employee health physicians should anticipate high levels of anxiety among nursing staff, particularly those working in clinical wards.

We note many strengths to the current survey. We were inclusive of many nursing specialties from across Saudi Arabia. Past studies would have focused on a single region or a single hospital.

One significant limitation in the current research is the inability to carry full psychiatric interviews to explore in-depth the risk factors and impact of coronaphobia among the affected staff.

Future research should be of a longitudinal design to elucidate the cause-effect relationship more clearly. Also, pharmacological, and behavioral interventions that may help nursing staff with coronaphobia should be evaluated with robust clinical trials.

To sum up, coronaphobia affected four in five nursing staff in Saudi Arabia. Support to nursing personnel is required at all organizational levels. This is particularly needed for Saudi national nursing staff.
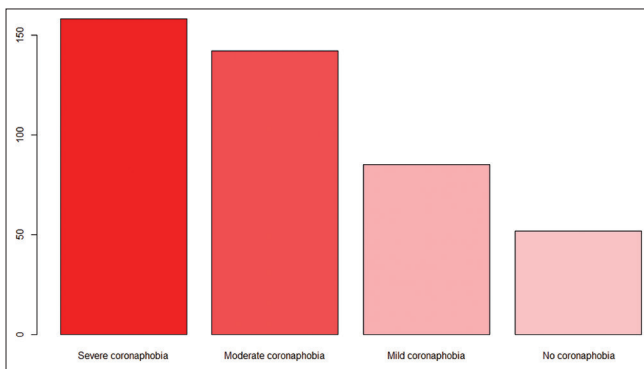

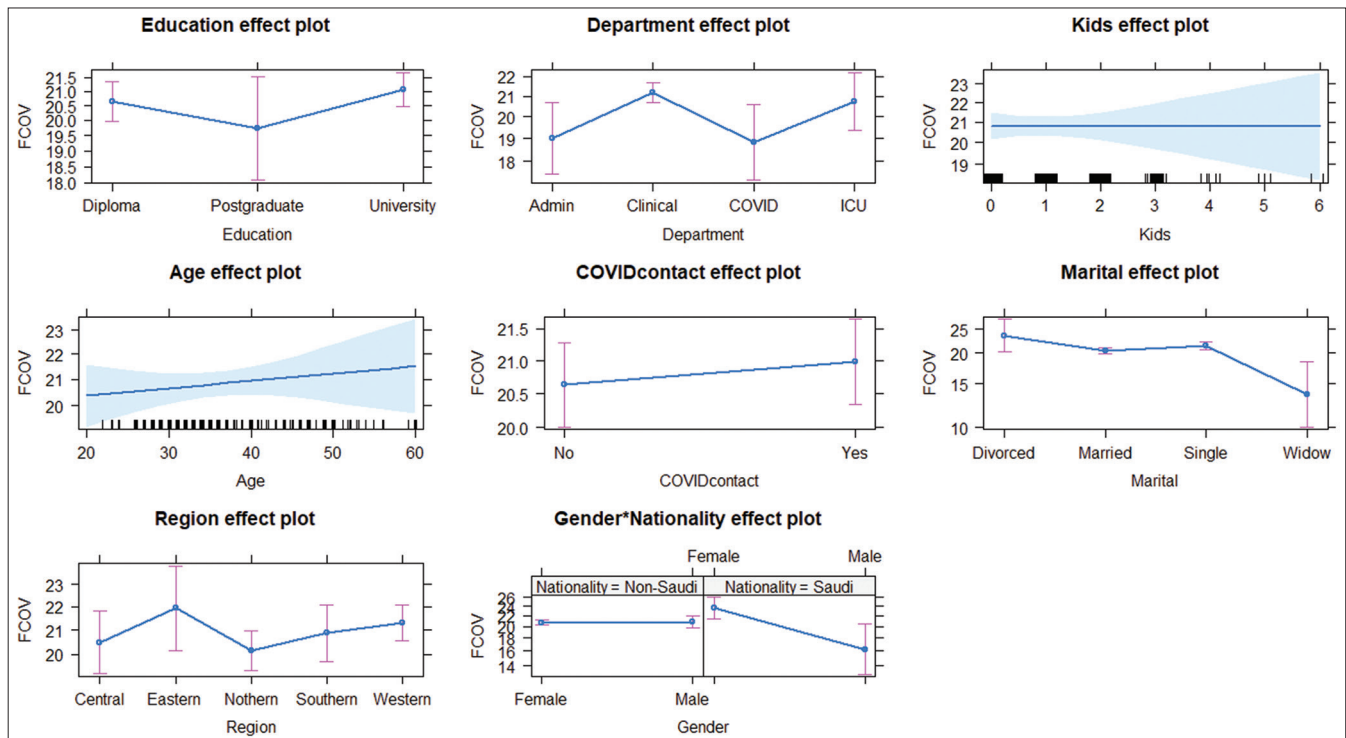**Figure 1:** Prevalence of coronaphobia among the participating nursing staff

Figure 2: The adjusted effect of background factors on the coronaphobia risk

Ethical approval

All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975, as revised in 2000 (5). Informed consent was obtained from all patients for being included in the study. The paper was approved by the Research and Ethics Committee in Al-Hada Military Hospital in Taif before the commencement of respondents' recruitment. Date of ethical approval 28-6-2020.

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Conflicts of interest

There are no conflicts of interest.

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