

## Home Quarantine Among COVID Positive Health Professionals: A Cross-Sectional Study From Hyderabad Pakistan

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### ABSTRACT

**Objective:** To determine the preference for home quarantine and its reasons among health professionals during the COVID-19 pandemic.

**Study Design:** Cross-sectional study.

**Place and Duration:** Department of Obstetrics/Gynecology, Liaquat University of Medical and Health Sciences Jamshoro, and other affiliated hospitals with LUMHS, from Apr to Sep 2021.

**Methodology:** Eighty home-quarantined health professionals (HPs) at our institute following the exposure to confirm COVID-19 cases were included. A pre-designed questionnaire was used to analyze its reliability using Cronbach's alpha value in SPSS after completing the home quarantine period and analyzed.

**Results:** We enrolled 80 health professionals. 43 (53.8%) were PG Trainees, followed by consultant (20%), doctors (20.0%), nurses (6.2%), and technicians (6.9%). The mean quarantined period was  $15.72 \pm 6.15$  days (7-20 days). Doctors, PG trainees, and nurses perceived a greater level of irritability than the other health professionals. We found an association between irritability and advanced age, confinement, and being single. Generally, PG Trainee revealed higher physical activity ( $p < 0.001$ ). Physical activity was significantly lower among respondents who were unmarried ( $p = 0.004$ ).

**Conclusion:** Increased satisfaction and a more homelike environment, less aggravation of symptoms, and a mild level of depression and anxiety among health care professionals were associated with home quarantine measures during the COVID-19 pandemic.

**Keywords:** COVID-19, Health care professionals, Pandemic.

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### INTRODUCTION

In all the history of pandemics, health professionals (HPs) have been among the most at-risk groups. For the ongoing COVID-19 pandemic, this is also the case. Hospital workers are at risk because of their proximity and long-term contact with patients to perform life-saving aerosol-generating events like endotracheal intubation and their lack of training in hand hygiene and other infection control practices.

The lack of social mobility and closed sports centres/gyms contributed to a lack of physical activity.<sup>1</sup> Those limitations could exacerbate the unhealthy habit of sitting down all day that is so prevalent in developed countries like Pakistan.<sup>2</sup> Sedentary behaviour was already a significant public health issue before the outbreak, with more than a quarter of all adults failing to meet the recommended daily physical activity.<sup>3</sup> The average step count of over 30 million Fitbit users increased by 22, 2020 during the pandemic, according to

data released by Fitbit, Inc. in the outbreak's wake.<sup>4</sup> Weighed down because a sedentary lifestyle has been linked to a host of health problems, the importance of reducing sitting time while simultaneously increasing exercise time becomes apparent.<sup>5</sup> Overeating is another side effect of being in quarantine for an extended time.<sup>6</sup> Many people seek high-energy foods to cope with long-term stress.<sup>7,8</sup> One study found that people try to ease the stress of lockdown by eating more comforting foods (e.g., hamburgers, snacks, chocolate, and carbonated beverages) than they usually would (stress-related eating).<sup>9</sup>

Pre-existing conditions with outcomes and diet and mental health have been the focus of most COVID-19 studies in Pakistan.<sup>10</sup>

There is a strong correlation between lockdowns and an increased level of inactivity. Our study on quarantined-health professions aims to explore the impact of COVID-19 on home quarantines.

### METHODOLOGY

This study was carried out at the Department of Obstetrics/Gynecology, Liaquat University of Medical

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and Health Sciences Jamshoro, and other affiliated hospitals with LUMHS for six months from April 201 to September 2021. The Institutional Ethical Committee approved the study (LUMHS/REC/-79).

**Inclusion Criteria:** Following exposure to confirmed or suspected COVID-19 cases at home, positive health professionals (HPs) were included in this study.

**Exclusion Criteria:** Non-consenting health professionals (HPs) were excluded. COVID-19 positive cases of isolation ward were not included in the study.

We selected eighty health professionals by non-probability random sampling technique. Oropharyngeal and nasal/nasopharyngeal swabs were tested between days 5 and 7 after the last exposure or the onset of symptoms, whichever came first in all subjects.

Data was collected regarding demographics, exposure details, personal protective equipment (PPE), and pre-exposure prophylaxis with Hydroxychloroquine (HCQ). Study subjects were divided into two groups based on whether their RT-PCR results showed a COVID-positive status.

Statistical Package for Social Sciences (SPSS) version 25 was used for the data analysis. Statistical normality tests were used to examine data distributions, including the Kolmogorov-Smirnov and Shapiro-Wilk tests. The median (interquartile range) was used instead of the mean (standard deviation) to represent skewed distributions. The frequency of categorical variables was given as a means of reporting. Independent sample-t was applied to compare the mean values of numerical variables like age in years. Association between qualitative data was evaluated by Fisher exact test. The *p* value of  $\leq 0.05$  was considered statistically significant.

## RESULTS

Eighty health care professionals were included in this study. Out of them, 43 (53.8%) were PG Trainees, followed by consultant (20.0%), doctors (20.0%), nurses (6.2%), and technicians (6.9%). The mean age was  $34.50 \pm 9.45$  years (16-60 years). Female health workers were more predominant (71.2%) than males. The mean quarantined period was  $15.72 \pm 6.15$  days (7-20 days). 63 (78.8%) were married, and 17 (21.2%) were unmarried. In this study, 71(88.8%) participants had the reason for home quarantine to be more comfortable at home, whereas 9(11.2%) participants were fear of the hospital environment. Most of the study participants, 48 (60%), got their COVID-19 test by the onset of symptoms and 28 (35%) participants were tested by screening after the

exposure to a positive patient. However, 12(15.0%) of HP's family members were positive for COVID-19. Moreover, 61(76.2%) HPs remained in contact with Physicians, and 16(20.0%) HPs had ICU backup.

**Table-I: Demographic characteristics of participants (n=80).**

Variables	Males n=23	Females n=57	<i>p</i> - value
Age (In Years), Mean $\pm$ SD	42.09 $\pm$ 11.301	31.44 $\pm$ 6.530	<0.0001
Duration of Home Quarantine	15.5217 $\pm$ 9.96	15.8070 $\pm$ 3.78	0.852
<b>Marital Status</b>			
Married	21 (91.3%)	42 (73.7%)	0.13
Unmarried	2 (8.7%)	15 (26.3%)	
<b>Health Profession</b>			
Doctor	6 (26.1%)	5 (8.8%)	< 0.0001
Consultant	8 (34.8%)	8 (14.0%)	
PG Trainee	5 (21.7%)	38 (66.7%)	
House officer	0 (0.0%)	1 (1.8%)	
Nurse	0 (0.0%)	5 (8.8%)	
Technician	4 (17.4%)	0 (0.0%)	
<b>How Do They Get the Covid-19 Test?</b>			
By Screening	9 (39.1%)	19 (33.3%)	0.077
After the onset of Symptoms	11 (47.8%)	37 (64.9%)	
Other	3 (13.0%)	1 (1.8%)	
<b>Cough</b>			
Yes	12 (52.2%)	46 (80.7%)	0.012
No	11 (47.8%)	11 (19.3%)	
<b>Sore throat</b>			
Yes	7 (30.4%)	33 (57.9%)	0.023
No	16 (69.6%)	24 (42.1%)	
<b>Fever</b>			
Yes	15 (65.2%)	40 (70.2%)	0.428
No	8 (34.8%)	17 (29.8%)	
<b>Others</b>			
Yes	4 (17.4%)	4 (7.0%)	0.218
No	19 (82.6%)	53 (93.0%)	
<b>Reason for Home Quarantine</b>			
More Comfortable at Home	20 (87.0%)	51 (89.5%)	0.712
Fear of Hospital Environment	3 (13.0%)	6 (10.5%)	
<b>Are Other</b>			
No	18 (78.3%)	50 (87.7%)	0.311
Yes	5 (21.7%)	7 (12.3%)	
<b>Any Hospital</b>			
Yes	17 (73.9%)	42 (73.7%)	0.991
No	6 (26.1%)	15 (26.3%)	
<b>ICU</b>			
Yes	7 (30.4%)	9 (15.8%)	0.215
No	16 (69.6%)	48 (84.2%)	

Doctors, PG trainees, and nurses perceived a greater level of irritability than the other health professionals. Irritability was strongly associated with advanced age, confinement, and being single. Many people felt the sense of helplessness was exacerbated by their gender and marital status.

The symptoms were multiple responses like cough 58 (33%), fever 55 (31.2%), and sore throat 40

(22.7%) were found to be more common symptoms among the health workers. Quarantine significantly predicted insomnia.

Table-II showed parameters that influence physical activity by applying the Chi-square test. Generally, PG Trainee and consultants showed significantly higher physical activity ( $p=0.02$ ). Physical-activity was insignificantly lowest among respondents with unmarried. During quarantine, there was a higher likelihood of increased physical activity among married couples. we found significantly increased physical activity among female subjects ( $p=0.04$ ). However, physical activity was significantly lowest among respondents because of fear of the hospital environment ( $p=0.001$ ).

**Table-II: Frequency of positive COVID-19 health professionals with physical activity (n=80).**

Variables	Physical Activity		p-value
	Yes, n=30	No, n=50	
<b>Gender</b>			
Male	13 (43.3%)	10 (20.0%)	0.04
Female	17 (56.7%)	40 (80.0%)	
<b>Marital status</b>			
Married	24 (80%)	39 (78.0%)	NS
Unmarried	6 (20%)	11 (22.0%)	
<b>Health Profession</b>			
Doctor	6 (20%)	5 (10%)	0.02
Consultant	9 (30%)	7 (14%)	
PG Trainee	9 (30%)	34 (68%)	
House officer	1 (3.3%)	-	
Nurse	2 (6.7%)	3 (6%)	
Technician	3 (10%)	1 (2%)	
<b>Cough</b>			
Yes	22 (73.3%)	36 (72%)	NS
No	8 (26.7%)	14 (28%)	
<b>Sore Throat</b>			
Yes	12 (40%)	28 (56%)	NS
No	18 (60%)	22 (44%)	
<b>Fever</b>			
Yes	20 (66.7%)	35 (70%)	NS
No	10 (33.3%)	15 (30%)	
<b>Reason for Home Quarantine</b>			
More comfortable at home	22 (73.3%)	49 (98%)	0.001
Fear of hospital environment	8 (26.7%)	1 (2.0%)	
<b>Any Hospital</b>			
Yes	20 (66.7%)	39 (78%)	NS
No	10 (33.3%)	11 (22%)	
<b>ICU</b>			
Yes	6 (20.0%)	10 (20.0%)	NS
No	24 (80.0%)	40 (80.0%)	

\*p-value statistically significant, NS = Not significant

## DISCUSSION

Our results suggest that home quarantine measures during the COVID-19 pandemic were associated

with increased satisfaction and a homely environment, with less aggravation of symptoms, but still, there is a mild level of symptoms of depression and anxiety among health care professionals.

Even though statistically significant physical activity was seen before and during the lockdown, people suggest a minor lifestyle shift because of the lockdown enforced. In surveys with large sample numbers, small but statistically significant changes in percentages are typical, and these results should be read cautiously.<sup>11,12</sup> Despite this, the study found that home isolation decreased physical activity.<sup>13,14</sup> In addition, an unhealthy eating habit (the type of food, the frequency of eating) was observed. Despite claims that quarantine at home should not prevent people from exercising, our research found that this was the case for some persons who took part in it. The increased confinement time that persons had to adhere to during quarantine increased sedentary behaviour and related hazards.<sup>15</sup>

Lockdowns during a pandemic can harm lifestyle activities around the world and involvement in sports and physical exercise, as recent studies have shown.<sup>16,17</sup> Overall physical activity and the availability of workouts have decreased because of COVID-19 precautions. Despite the rise in social media content that promotes physical activity.<sup>18</sup> The current findings reveal that participants with at-home activities could not maintain their regular physical activity patterns satisfactorily. It has been shown in China that fluctuations in physical activity are linked to a variety of socioeconomic conditions and regional policies.<sup>19</sup> Physical activity treatments during the COVID-19 pandemic should consider these factors. According to new research, individuals use data and communications technologies at a higher rate (15%) while quarantined, according to new research.<sup>20</sup> It is, therefore, possible to use communications technology solutions and fitness apps to encourage people to maintain an active and healthy lifestyle during quarantine in the future.

Many people, but not all, responded to the World Health Organization's (WHO) guidance,<sup>21</sup> by modifying their eating habits, such as increasing their consumption of snacks between meals. There does not appear to be a single behavioural issue with dietary habits. Eating out of anxiety, boredom,<sup>9</sup> or a lack of ambition to exercise or eat healthfully could be blamed for most of the unfavourable changes in eating habits.<sup>22</sup> As an alternative to traditional forms of motivational support, assistive technology such as applications, streaming services, and social media can be used

throughout the home quarantine period. Using information and communication technology-based solutions, including health and nutrition apps, maybe the most significant way to battle harmful eating patterns under quarantine.<sup>9</sup>

In the event of future lockdowns, the findings of this study should advance public health initiatives. COVID-19 pandemic restrictions suggested that breaking up long hours of sitting by simple techniques, such as 30-minute periods of moving between sitting and standing, can improve the energy expenditure, resulting in metabolic health benefits for both the ill and healthy individuals.<sup>23</sup>

Sub-populations need to be identified to create interventions to meet their needs; nutrition and physical activity behaviours need to be improved to improve interventions, as well as conditions for successfully maintaining healthy lifestyles before and during isolation.

## CONCLUSION

Increased satisfaction and a more homelike environment, less aggravation of symptoms, and a mild level of depression and anxiety among health care professionals were associated with home quarantine measures during the COVID-19 pandemic.

**Conflict of Interest:** None.

## Authors' Contribution

NP: Direct contribution, MA:, ES:, SA:, MNA:, RS: Intellectual contribution.

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