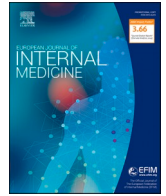




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Letter to the editor

The COVID-19 burden for health care professionals: Results of a global survey

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At the end of December 2019, a novel coronavirus (SARS-CoV-2) started to spread in the city of Wuhan, Hubei province in China, first described as novel coronavirus [1,2]. Meanwhile, the current COVID-19 pandemic has hit every country on the globe.

Health care systems have since varied significantly in their response to the immense challenges.

With an online survey targeting the worldwide medical community (emergency medical service, nurses, physicians, sonographers, technicians) we sought to discover experiences, fears, and successful strategies for the expected second wave.

The survey was open from April 24th, 2020 until June 24th, 2020. A total of 3,090 participants from 88 countries completed the survey, 49.4% were female, sample characteristics are presented in Table 1. During the worst times of the pandemic in their country, 238 (7.7%) reported to have suffered from a collapse of the system.

The pandemic is having an impact on the life of all, but particularly on those in the first line of the defense, the health care professionals (HCP). In this global survey, a total of 92% of the participants reported to have fears related to the pandemic, most (41%) are afraid of losing a family member, 22.5% worry there might be no control over the pandemic, 13.4% are afraid to fall ill or die themselves, and 12.8% are afraid of private financial losses. Interestingly, there was no difference in fears between those countries where high incidence rates were reported and those where there were few COVID-19 cases.

However, not only the psychological burden is high for HCP. When comparing those with a collapse of the system and those without, 9% vs.

3% ($p=0.006$) of the participants tested positive themselves, 78% vs. 60% ($p<0.001$) know a colleague who tested positive, and 41% vs. 16% ($p<0.001$) know a colleague who died from COVID-19.

At this time, most countries are preparing for or are already experiencing the second wave. Therefore, it is essential to learn the lessons from those who went through an extreme first wave. This survey confirms the unreliability of a negative COVID-19 test. A total of 64% of the participants reported of personal experience with false-negative tests, 44% of those from countries hit hard by the pandemic reported to have seen more than five patients with an initially negative test who turned positive during their stay at the hospital. A negative test must not be considered a safe rule-out of COVID-19 if clinical suspicion is high.

The pandemic of a hazardous and highly contagious virus is a medical disaster. The medical community is the group which is directly in contact with COVID-19. Therefore, their firsthand experience and opinion should have a loud voice in policy making and public health discussions: A total of 86% reported that they consider social distancing important to tackle the pandemic (Fig. 1). At the same time, 58% reported that they have seen patients who had a serious health hazard not due to COVID-19 but due to the lockdowns. During reduction of service or lockdowns, concepts must be implemented to ensure the medical service for those with chronic and acute diseases other than COVID-19.

Declaration of Competing Interest

All authors have read and approved submission of the manuscript

Table 1
Baseline characteristics of the participants and main results of the survey.

	Total	Collapse of the system	No collapse	P value
Number of participants	3090	238	2850	
Country				0.74
USA	502 (16.2)	30 (12.6)	472 (16.5)	
Germany	216 (7)	3 (1.3)	213 (7.5)	
India	179 (5.8)	14 (5.9)	165 (5.8)	
Austria	171 (5.5)	6 (2.5)	165 (5.8)	
Italy	116 (3.8)	24 (10.1)	92 (3.2)	
United Kingdom	106 (3.4)	7 (2.9)	99 (3.5)	
Others	1800 (58)	154 (64.7)	1644 (57.7)	
Male sex	1565 (50.6)	128 (53.8)	1437 (50.4)	0.32
Age				0.18
18-35	819 (24.5)	55 (23.1)	763 (26.8)	
36-45	863 (27.8)	62 (26)	800 (28)	
46-60	1035 (33.5)	91 (38.3)	944 (33.1)	
>60	373 (12.1)	30 (12.6)	343 (12)	
Profession				0.95
Sonographer	643 (20.8)	50 (21)	593 (20.8)	
Cardiologist	577 (18.7)	38 (16)	538 (18.9)	
Internist	382 (12.4)	31 (13)	351 (12.3)	
ICU doctor	242 (7.8)	31 (13)	211 (7.4)	
ER doctor	129 (4.2)	7 (2.9)	122 (4.3)	
General practitioner	165 (5.3)	14 (5.9)	151 (5.3)	
Other doctor	557 (18)	42 (17.7)	515 (18.1)	
Workplace				0.27
Tertiary hospital	956 (30.9)	85 (35.7)	869 (30.5)	
Local hospital	766 (24.8)	49 (20.6)	717 (25.2)	
Private hospital	550 (17.8)	40 (16.8)	510 (17.9)	
Secondary care	225 (7.3)	16 (6.7)	209 (7.3)	
Primary care	309 (10)	27 (11.3)	282 (9.9)	
Have you personally been tested?				0.006
Yes (pos)	114 (3.7)	22 (9.2)	92 (3.2)	
Yes (neg)	840 (27.2)	65 (27.3)	775 (27.2)	
No	2134 (69.1)	151 (63.4)	1983 (69.6)	
Do you know a colleague who tested positive?				<0.001
Yes	1888 (61.1)	185 (77.7)	1703 (59.8)	
No	1200 (38.8)	53 (22.3)	1147 (40.2)	
Do you know a colleague who died from COVID-19?				<0.001
Yes	560 (18)	97 (40.8)	463 (16.2)	
No	2528 (82)	141 (59.2)	2387 (83.8)	
Have you observed patients who were harmed by measures not by COVID19				0.13
Yes	1793 (58)	152 (63.9)	1640 (57.5)	
No	748 (24.2)	47 (19.7)	701 (24.6)	
What is your greatest fear during pandemic				0.75
Falling ill/dying from COVID	414 (13.4)	35 (14.7)	379 (13.3)	
Financial losses	394 (12.8)	22 (9.2)	372 (13.1)	
Losing family member	1259 (40.7)	97 (40.8)	1161 (40.7)	
Pandemic cannot be controlled	696 (22.5)	57 (23.9)	638 (22.4)	
Negative impact on my career	81 (2.6)	11 (4.6)	70 (2.5)	
No fear	246 (8)	16 (6.7)	230 (8.1)	
Have you observed patients who tested negative but actually were positive				<0.001
No	1094 (35.4)	70 (29.4)	1024 (35.9)	
Few (1-5)	1108 (35.9)	62 (26.1)	1046 (36.7)	
Many (>5)	886 (28.6)	106 (44.5)	780 (27.4)	

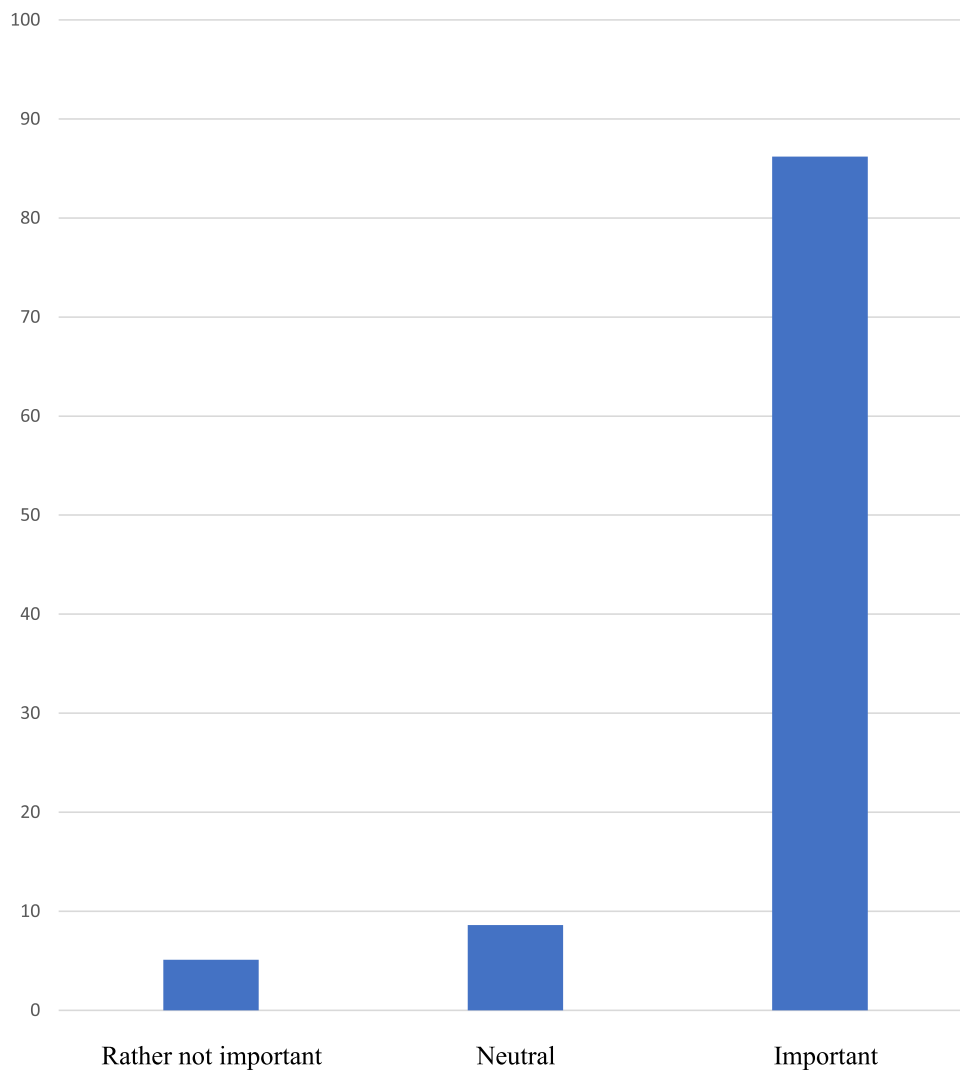


Fig. 1. Answer to the question “how important do you consider social distancing?”. A total of 159 (5.1%) participants chose “rather not important”, 267 (8.6%) were undecided, and 2664 (86.2%) answered “important” or “very important”.

and have no conflict of interest to disclose.

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