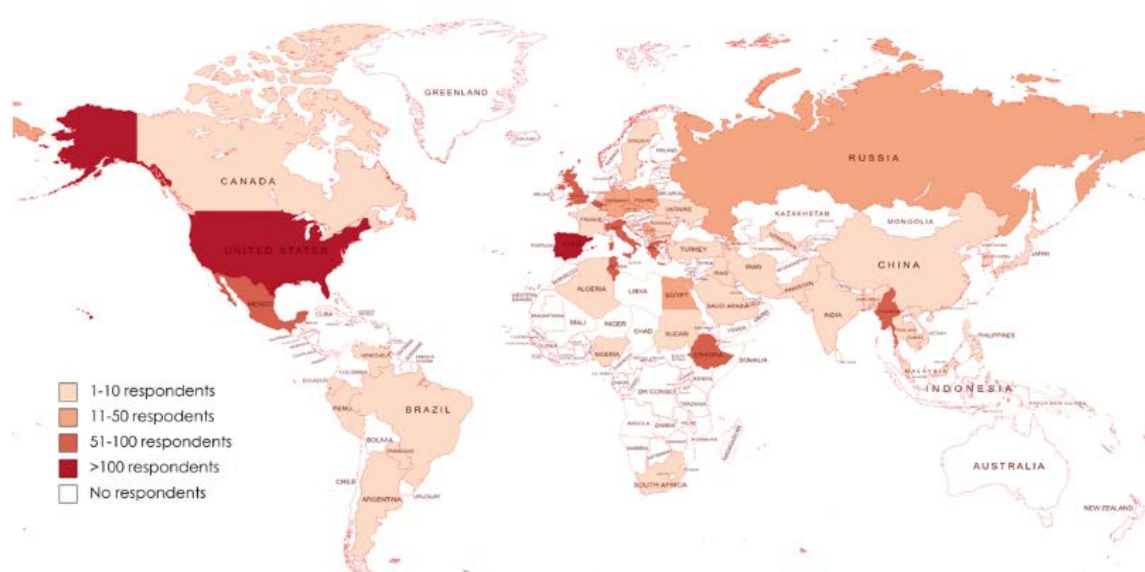


Supplementary material

Czerwińska-Jelonkiewicz K, Beneria A, Bañeras J, et al. Psychological burden of the COVID-19 pandemic, 6 months after the outbreak — the voice of the young doctors' generation: an international survey. Kardiol Pol. 2022.

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Country	Number of respondents 1-10	Country	Number of respondents 11-50	Country	Number of respondents 51-100	Country	Number of respondents >100
Algeria/ Maldives/ China/ Uzbekistan/ Armenia/ Bulgaria/ Bangladesh/ Venezuela/ Japan/ Iran/ Irak /Paraguay	1	Czech Republic	18	Myanmar	51	Spain	115
Sweden/ Brazil/ Croatia/ Cambodia/ Philippines/ Thailand/ South Africa/ South Korea	2	Poland	18	United Kingdom	66	Portugal	174
Ukraine/ Argentina/ Cyprus/ Azerbaijan/ Sudan	3	Egypt	22	Tunisia	73	United States of America	192
Ecuador/ Peru/ Canada/ Netherlands/ Nigeria/ Saudi Arabia	4	Austria	23	Mexico	76		
Romania/France/ Malaysia/ United Arab Emirates	6	Germany	30	Italy	76		
Vietnam/ North Macedonia/ India	7	Serbia	31	Greece	77		
Turkey	8	Russia	34	Belgium	88		
Pakistan	10			Ethiopia	96		

Figure S1.

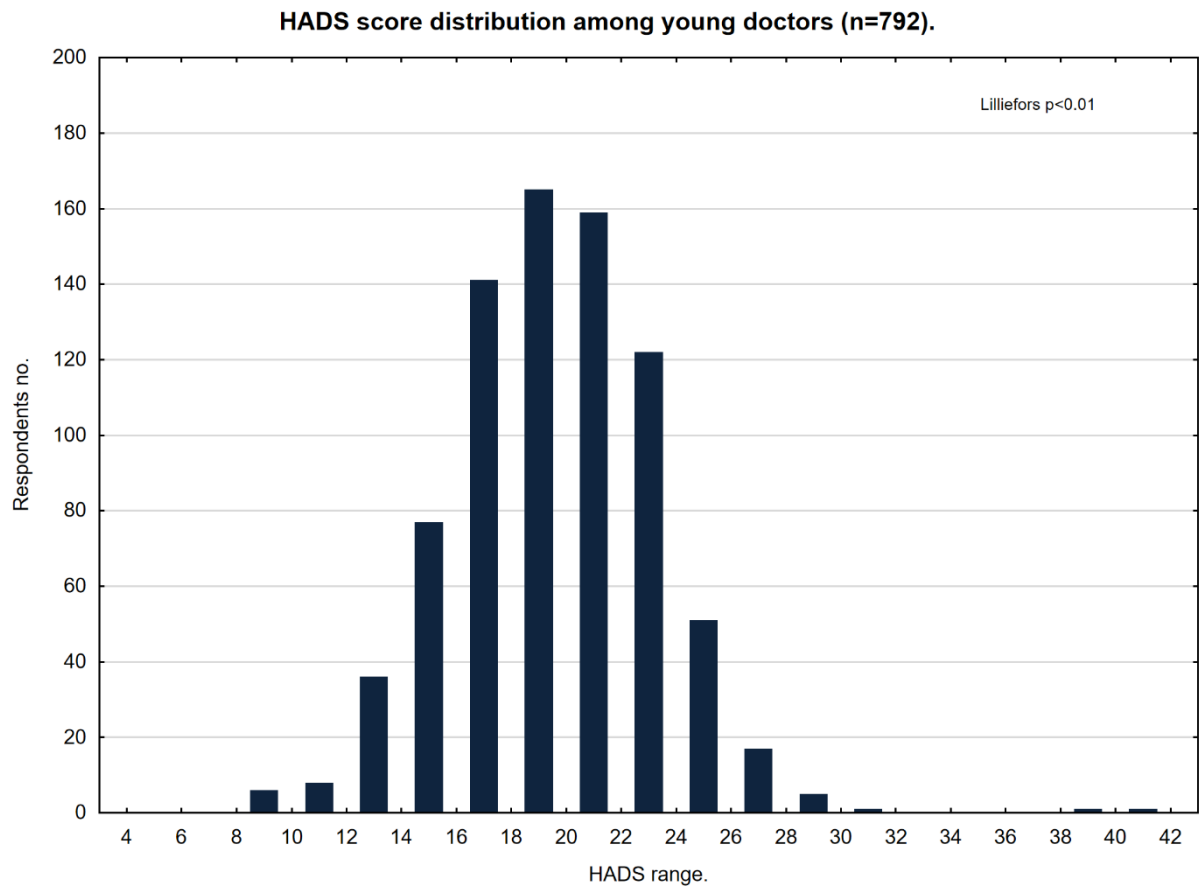


Figure S2.

Figuf

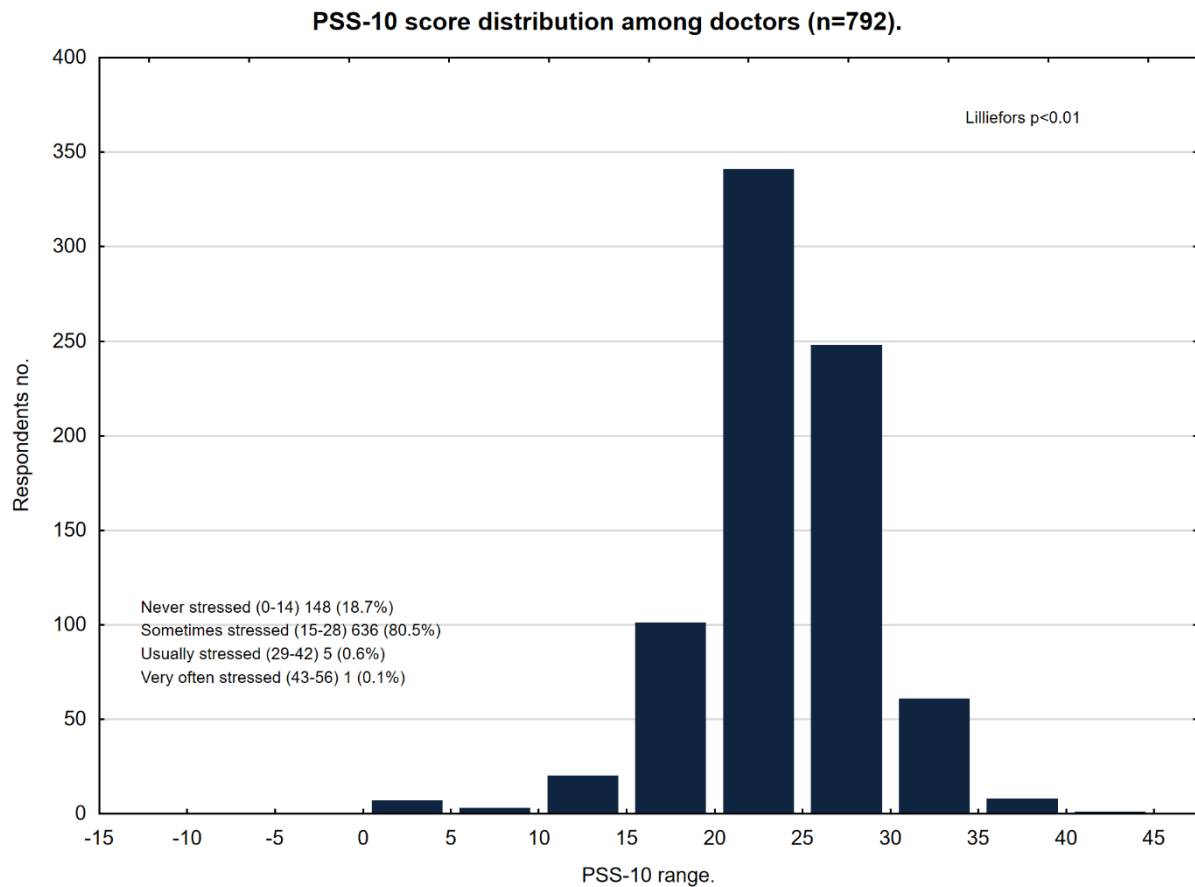


Figure S3.

Table S1.

Informed consent	
1.I understand that my participation is completely voluntary	Yes/No
2.I give my consent to participate in this study	Yes/No
Demographics	
This section will allow us to investigate your demographic background and also to define the risk factors that may contribute to the risk of contamination, clinical course of your emotional status due to COVID-19	
3.What is your gender	Female/Male/Other-do not wish to say
4.What is your age	
5.What is the country of your work/training within the last 6 months	
6.Are you	Fellow in training/Specialist<40 years old/Specialist>40 years old/Fellow in training but>40 years old
7.If you are in training, what is your current year of training	

8. Who do you live with (tick all that apply)	Alone/Partner/Children/Parents/Flatmates-Housemates
9. Do you have any of these disease (tick all that apply)	No/Coronary artery disease/Hypertension/Diabetes Mellitus/Chronic renal failure/Malignancy/Atrial Fibrillation/Obesity (BMI>30)/Heart failure/Chronic respiratory diseases like asthma or COPD/Other (please specify)
COVID-19 pandemic-work environment	
This section will help us to investigate your work environments including protective measures and training that you were provided with during the crisis and define impact of these aspects on your emotional status	
10. Do/did you manage COVID-19 patients	Yes/No
11. If Yes, Please specify your work area during the peak phase of the pandemic in your region:	Dedicated clinical area for COVID patients (but non-ICU/HDU)/COVID critical care unit/Emergency Department/N-A/Other (please specify)
12. On average, how many COVID-19 patients do/did you treat/meet every day?	0-5/6-10/>10/N-A
13. What are/were your routine protection measures? (tick all that apply)	Standard care involves hands washing or hands sanitization and use of gloves/Droplet precautions including gown, gloves, visor, fluid resistant surgical-mask and eye protection/Full PPE with special masks (e.g. N-95 or N-99 respirator masks, or powered air purifying respirator-PAPR systems)/No special precautions/N-A/Other (please specify)
14. On scale from 1 to 10 how you assess the effectiveness of protection measures that you were provided	0-10
15. Did you receive training in any of the following? (tick all that apply)	Donning-doffing personal protective equipment/Patients' mechanical ventilation/Endotracheal intubation/Prone position maneuvers/N-A
16. How do you assess the effectiveness of training that you received?	0-10
17. How do you assess teamwork in your workplace during the pandemic?	0-10
18. Did/do you have debriefings after an emergency?	Yes/No/N-A
19. Did/do you have regular briefings to plan teamwork?	Yes/No/N-A
20. How do you assess the effectiveness of the briefing to plan teamwork?	0-10
21. Were you redeployed during the pandemic to cover other facilities?	Yes/No
22. Did your working hours change during the pandemic?	Yes, they increased/Yes, they increased, including more night shifts/No, they did not change/No, they did not change in total but

	there were more night shifts/They decreased
23.Did/do you have the opportunity to influence your working environment?	Yes/No
24.If Yes, how were you able to do this (thick all that apply)	Organization of shifts/Organization of protection measures/Work-flow-daily organization of care/Participation in leadership-MDT meetings/N-A
25.Did you have a change in salary due to COVID-19?	No, my salaries did not change/Pay decreased for current job/Pay unchanged for current job/Loss of pay due to change on start date of new employment/Pay increased for current job
COVID-19 pandemic-course of infection	
Data on COVID-19 rate and course of the infection among young individuals are subtracted from large population studies and no detail analysis devoted to the infection in our population - generation of young doctors exists. Your response to the questions below will help provide information regarding the range and severity of the disease that affects us.	
26.Were you confirmed to be infected?	Yes/No
27.If Yes, what was your confirmation test?	PCR/Antibodies/I was not tested, I was diagnosed based on symptoms/N-A
28.What kind of symptoms did you have?	No symptoms/Mild symptoms, such as headache, fatigue, cough, impaired concentration, loss of appetite/Moderate symptoms, which limited my daily activity such as pyrexia, shortness of breath, muscle sore, diarrhea, insomnia/ Serious symptoms, which required hospitalization/N-A
29.For how long you were isolated (specify in days)?	
30.Did you receive any of the following treatments? (tick all that apply)?	No treatment/Hydroxychloroquine/Azithromycin/Remdesivir/Corticosteroids/Lopinavir-ritonavir/Convalescent serum/Antibiotics as a prophylaxis/Anticoagulant (heparin)/ N-A
31.Were you tested for COVID before you returned to work?	Yes/No/N-A
32.Did you return to the same work environment?	Yes/No/N-A
COVID-19 Pandemic-emotional burden	
Fellows-in-training and early career physicians are typically front line healthcare providers in the pandemic and may be more vulnerable to stress related emotional disorders. This may affect many aspects of our lives now and in the future. Please express your feelings about work in the pick of the pandemic. Don't take too long over your replies: your immediate is best!	
33.The questions in this scale ask you about your feelings and thoughts during the last month. IN each case, please indicate your response by ticking the circle representing HOW OFTEN you felt or thought a certain way (never/almost never/sometimes/fairly often/very often):	

-In the last month, how often have you been upset because of something that happened unexpectedly?
 -In the last month, how often have you felt that you were unable to control the important things in your life?
 -In the last month, how often have you felt nervous and “stressed”
 -In the last month, how often have you felt confident about your ability to handle your personal problems?
 -In the last month, how often have you felt that things were going your way?
 -In the last month, how often have you found that you could not cope with all the things that you had to do?
 -In the last month, how often have you been able to control irritations in your life?
 -In the last month, how often have you felt that you were on top of things?
 -In the last month, how often have you been angered because of things that were outside your control?
 -In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

34.I feel tense or “wound up” (last week)	Most of the time/A lot of the time/From time to time, occasionally/Not at all
35.I still enjoy the things I used to enjoy (last week)	Definitely as much/Not quite so much/Only a little/Hardly at all
36.I get a sort of frightened feeling as if something awful is about to happen (last week)	Very definitely and quite badly/Yes, but not too badly/A little, but it doesn’t worry me/Not at all.
37.I can laugh and see the funny side of things (last week)	As much as I always could/Not quite so much now/Definitely not so much now/Not at all
38.Worrying thoughts go through my mind (last week)	A great deal of the time/A lot of the time/From time to time, but not too often/Only occasionally
39. I feel cheerful (last week)	Not at all/Not often/Sometimes/Most of the time
40. I can sit at ease and feel relaxed (last week)	Definitely/Usually/Not often/Not at all
41.I feel as if I am slowed down (last week)	Nearly all the time/Very often/Sometimes/Not at all
42. I get a sort of frightened feeling like “butterflies” in the stomach (last week)	Not at all/Occasionally/Quite often/Very often
43.I have lost interest in my appearance (last week)	Definitely/I don’t take as much care as I should/I may not take quite as much care/I take just as much care as ever
44.I feel restless as I have to be on the move (last week)	Very much indeed/Quite a lot/Not very much/Not at all
45. I look forward with enjoyment to things (last week)	As much as I ever did/Rather less than I used to/ Definitely less than I used to/Hardly at all
46.I get sudden feelings of panic (last week)	Very often indeed/Quite often/Not very often/Not at all
47.I can enjoy a good book or radio or TV program (last week)	Often/Sometimes/Not often/Very seldom
48.Did you lose any close relatives or close friends to COVID-19)	Yes/No

49.If yes, did you have the resources to cope with the loss	Yes, I did/No-I would have liked to have more help and resources to cope with the loss/N-A
50.For doctors who were infected with COVID-19, how did you feel about returning to work?	I had doubts about my acquired immunity and fear of reinfection/I was convinced that I am protected by acquired immunity/I felt fine/N-A
Future perspective	
Your responses to this set of questions will help identify areas for improvement in the event of another pandemic	
51.Do you think that being updated about new COVID-19 evidence, including pharmacological therapies or vaccines would make you feel less afraid to work with COVID-19 infected patients?	Yes/No
52.If yes, what would be the most effective way of spreading the information (tick two the most important)	Regular up to date World Health Organization (WHO) reports published on WHO website/Official up to date reports published on websites of National Healthcare Professional Societies/Official up to date reports published on websites of Leading International Healthcare Professional Societies/Newsletter from National Health Professional Societies with up to date information about new evidence and studies spread by email to all register members/Newsletter from Leading International Healthcare Professional Societies with up to date/Information about new evidence and studies spread by email to all register members/Official up to date reports regularly spread by Local Healthcare authorities including individual hospital's environment.
53.In case of new pandemic what would you consider as the most important aspect of your work environment (tick two the most important)	Protection measures/Training in use of protection measures/Training in specific treatment strategy/Organization of work, including teamwork and working hours/Workforce input to plan the work in crisis
54.In the event of a new pandemic, what would you consider as the most important improvement strategies for the healthcare work environment (tick two the most important):	Protective measures/Training staff in the use of protective measures/Training in infection treatment strategies/Re-organization of the work assignments and work-hours/ability for staff to provide input to plan the work in crisis
55.In case of new pandemic, do you think that professional psychological preparation would help you to deal with crisis?	Yes/No

Table S2. Demographics, work environment and opinion of the respondents

Demographics and psychological disorders	No. (%)* of respondents	Median (IQR)	Mean (SD)
Age	1186	32 (28 – 39)	
Female	675 (44.5)		
Fellow	541 (46.65)		
Young specialist	643 (54.26)		
Year of training	1184		3.75 (2.2)
Concomitant diseases	194 (12.9)		
HADS	792 (66.9)	20 (18 – 23)	
HADS >13	764 (96.4)		
PSS-10	792 (66.9)	25 (22 – 28)	
PSS-10 >14	769 (97.1)		
Opinion on work environment (scale from 1 to 100)			
Effectiveness of protective measures	902 (76.1)	78 (56 – 90)	
Effectiveness of COVID-19 related training	902 (76.1)		51.4 (33.3)
Teamwork in workplace during the pandemic	902 (76.1)	80 (54.5 – 92)	
Effectiveness of briefings to plan teamwork	902 (76.1)		50.3 (34.7)
Household	No. (%)* of respondents	Working hours**	No. (%)* of respondents
Partner	617 (65.8)	Increased, including more night shifts	406 (61.32)
Children	424 (35.3)	Did not change	144 (21.75)
Parents	235 (25.1)	Did not change, but more night shifts	38 (5.74)
Flatmates	85 (9.1)	Decreased	108 (16.31)
Work environment	No. (%)* of respondents	Protective measures	No. (%)* of respondents
Managing COVID-19 patients	772 (73.47)	Hands washing and sanitization	151 (8.98)
COVID unit	343 (44.4)	Droplet precaution including surgical mask	316 (30.4)
COVID critical care	205 (26.55)	Full PPE	510 (59.1)
Emergency Department	240 (31.08)	No protective measures	8 (0.53)
Number of COVID-19 treated patients	No. (%)* of respondents	Covid-19 related training	No. (%)* of respondents
<5	480 (62.17)	Donning/doffing of PPE	628 (53.04)
6-10	155 (20.1)	Mechanical ventilation	211 (17.82)

>10	137 (17.7)	Endotracheal intubation	131 (11.06)
Debriefings after emergencies	285 (29.7)	Prone position maneuvers	123 (10.38)
Briefings to plan work	463 (48.5)	No training	292 (24.66)
Opportunity to influence work environment	497 (52.9)	Salaries**	No. (%)* of respondents
Redeployment during the pandemic	417 (52.78)	Did not change	474 (71.6)
COVID-19 infection	No. (%)* of respondents	Decreased	92 (13.89)
Confirmed to be infected	130 (10.97)	Loss of pay due to delayed new post	15 (2.26)
Return to the same work environment	332 (91.3)	Increased for current job	82 (12.38)

Table S3. Comparative analysis of HADS and PSS-10 scores between specific subgroups of the respondents

Subgroups	HADS Median (IQR)	P-value	PSS-10 Median (IQR)	P-value
COVID infected vs non-infected	20 (18-23) vs 20 (18-22)	0.58	24 (21-27) vs 25 (22-28)	0.25
Female vs Male	19 (17-22) vs 20 (18-23)	0.85	24 (22-26) vs 24 (21-27)	0.38
Age ≥ 33 vs < 33	21 (19-24) vs 20 (18-22)	0.60	25 (22-27) vs 24 (21-26)	0.22
Training < 3 yr vs ≥ 3 yr	20 (18-23) vs 20 (18-22)	0.48	23 (20-25) vs 23 (21-25)	0.29
Living Alone vs with household	20 (17-23) vs 20 (18-22)	0.88	24 (21-27) vs 23 (20-26)	0.6
Concomitant diseases No vs Yes	20 (17-22) vs 20 (17-23)	0.12	22 (20-24) vs 23 (21-25)	0.24
COVID-19 patients management No vs Yes	20 (18-23) vs 20 (17-23)	0.3	22 (20-26) vs 25 (22-28)	0.05
Full PPE + droplet precaution vs hands washing + no protection	19 (17-21) vs 20 (18-22)	0.79	25 (23-27) vs 26 (24-28)	0.75
Loss of close person due to COVID-19 Yes vs No	21 (18-24) vs 20 (18-23)	0.27	23 (21-25) vs 22 (20-24)	0.91
Work hours Increased, including night shifts vs	21 (19-24) vs 25 (23-28)	0.003	24 (22-27) vs 24 (21-26)	0.11

did not change + decreased				
Salaries Decrease vs no change vs increase	22 (19-25) vs 19 (17-21) vs 18 (16-20)	0.044	24 (21-27) vs 24 (21-27) vs 24 (21-27)	0.10

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