

RESEARCH

Open Access



# Mental health in Italy after two years of COVID-19 from the perspective of 1281 Italian physicians: looking back to plan forward

Alessandro Cuomo<sup>1\*</sup>, Mario Amore<sup>2</sup>, Maria Felice Arezzo<sup>3</sup>, Sergio De Filippis<sup>4</sup>, Alessandra De Rose<sup>3</sup>, Silvestro La Pia<sup>5</sup>, Alessandro Pirani<sup>6</sup>, Riccardo Torta<sup>7</sup> and Andrea Fagiolini<sup>1</sup>

## Abstract

**Background:** The COVID-19 pandemic has generated an unprecedented global crisis that is profoundly affecting mental health and mental health care. The aim of this study was to survey a relatively large group of Italian physicians about their perceived impact of COVID-19 on the mental health of the Italian population and about their suggestions on the best strategies to address the current and future challenges.

**Methods:** One thousand two hundred eighty-one (1,281) physicians were surveyed between November 2021 and February 2022.

**Results:** Eighty-one percent of respondents reported an increase in the number of people with mental illness presenting to their practice during the COVID-19 pandemic. Thirty-four percent reported a 26–50% increase in the number of people with mental illness in their community; approximately 33% reported a 1–25% increase; and 26.9% reported a 51–75% increase. The most commonly reported mental issues that increased because of COVID-19 were agitation, mood and anxiety disorders. Regarding the suggested strategies to address future challenges related to the COVID-19 pandemic, 34.6% of respondents recommended providing psychoeducation to the general population for early detection of mental illness and developing strategies to reduce the impact of COVID-19-related stress. In addition, 12.6% of respondents suggested improving telehealth services, while 12.3% suggested the need for increased funding for community-based care. When asked about physicians' opinion on the possibility of an increased prevalence of mental illness in the next 12 months, more than 30% of them predicted an increase in stress-related illnesses, while 25.2% were more concerned about a worsening of the ongoing clinical conditions of patients with previous psychiatric disorders. However, 21% of respondents believed that people's ability to cope with the pandemic would increase in the next 12 months.

**Conclusions:** This study confirmed a strong and negative impact on the mental health of the past 2 years of COVID-19 pandemic in the Italian population. Providing psychoeducation to the general population and improving the availability of telemedicine services could reduce the impact of future challenges related to the pandemic.

**Keywords:** COVID-19, Mental health, Anxiety, Agitation, Physician

## Background

The COVID-19 pandemic resulted in an unprecedented global crisis that profoundly affected mental health and mental health care [1]. Prolonged isolation, uncertainty, and the temporary disruption of social relationships and

\*Correspondence: [alessandrocuomo86@gmail.com](mailto:alessandrocuomo86@gmail.com)

<sup>1</sup> Department of Molecular Medicine, University of Siena, Siena, Italy  
Full list of author information is available at the end of the article



© The Author(s) 2022. **Open Access** This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>. The Creative Commons Public Domain Dedication waiver (<http://creativecommons.org/publicdomain/zero/1.0/>) applies to the data made available in this article, unless otherwise stated in a credit line to the data.

interactions [2], negatively impacted the mental health and created new barriers. Depression, anxiety, and stress were reported as the most common mental health issues during the first waves of COVID-19, due to the prolonged quarantine, the completely new and unprecedented situation, and the higher exposure to information about the spread of COVID-19 and the associated mortality rates [3–7]. To reduce these negative effects, clinicians did their best to maintain support and treatment for their patients. For instance, telemedicine gradually became a vital resource for mental health care [8–10]. Also, new strategies and guidelines were recommended to help physicians manage patients during the acute phases of the pandemic, such as virtual psychological sessions able to reduce the psychological impact of COVID-19 in the general population and in certain categories of workers [11–15].

Italy was one of the first Western countries to be affected by the pandemic, and people spent more than 2 years facing unprecedented, new and often unpredictable challenges, often fluctuating between hope and optimism and worry and disappointment. Several studies reported the early psychological consequences of the pandemic COVID-19 in the Italian population [16, 17].

The impact of the pandemic on mental health has been less studied than the COVID-19 epidemiology, transmission patterns, physical symptoms, and their treatment [18]. Furthermore, while numerous studies have been conducted to assess physician and patient satisfaction with telemedicine [19–22], to our knowledge, fewer studies have been conducted to examine physicians' perceptions of the mental health crisis and/or suggestions on how to best face the future challenges [1, 23–28].

The aim of this study was to survey a relatively large group of Italian physicians about their perceived impact of COVID-19 on the mental health of the Italian population and about their suggestions on the best way to address the future challenges.

To this end, we decided to conduct a survey among Italian clinicians to obtain an up-to-date overview of the current impact of the COVID-19 pandemic on the mental health of the Italian population and to gather their input on possible strategies to address the current and future challenges.

## Methods

A total of 1,281 clinicians practicing in Italy as psychiatrists, neuropsychiatrists, pediatricians, primary care practitioners, geriatricians, and neurologists participated in the survey, which was conducted between November 2021 and February 2022. The questionnaire was administered online through Google Form. Participation was voluntary, anonymous, and without remuneration. Written

consent was obtained from all respondents. Given the nature of this survey, no ethics committee approval was required under Italian law.

The survey was developed by the authors of this paper in a series of consensus meetings to define the questions and make them clear and concise. In the case of disagreement, additional meetings were scheduled until full agreement was reached among all authors. The validity of the questionnaire was then tested on a sample of ten randomly selected psychiatric residents to assess the length of the survey and the appropriateness of the questions, and to ensure that the definitions were not ambiguous. The final version comprised four sections: (1) demographic data, including age, sex, and city of residence; (2) impact of the COVID-19 pandemic on mental health in their communities; (3) evaluation of the strategies that they followed to address the mental health impact of their patients; (4) current and planned strategies to respond and adapt to existing and future challenges.

Descriptive statistics were reported as mean  $\pm$  standard deviation (SD) for quantitative data and as frequencies and percentages for qualitative data. A univariate Chi-square test was performed for comparisons among different specializations. Statistical significance was set at 5% ( $p < 0.05$ ).

## Results

One thousand two hundred and eighty-one (1,281) clinicians with a mean experience of delivering health care of  $23.03 \pm 10.95$  years participated in the survey (females: 551, males: 530, mean age  $54.04 \pm 11.01$  years) (Table 1). The sample was mainly composed of adult and child (30.4% and 31.8%, respectively) psychiatrists, neurologists, primary care physicians, neurologists, and other specialists.

Eighty-one percent ( $n = 1,040$ ) of respondents thought that the number of people with mental illness referring

**Table 1** Characteristics of survey respondents

Num. respondents	1281
Gender	
Females	551 (43.0%)
Males	730 (57.0%)
Specialization	
Psychiatrists or child neuropsychiatrists	389 (30.4%)
General practitioners	407 (31.8%)
Neurologists and geriatrics	244 (19.0%)
Not reported	241 (18.8%)
Respondents' age* (years)	54.04 (11.01) (median: 58)
Experience* (years)	23.70 (10.95) (median: 27)

\*Values are reported as mean (SD) and median

to their service had increased during the COVID-19 pandemic. Thirty-four percent reported that the number of people with a mental disorder in their community increased by 26–50%; about 33% reported an increase by 1–25%, and 26.9% reported an increase by 51–75%. Women were reported as more frequently hit by Covid-related mental distress than men (Table 2). When asked about which patients, in terms of age group, had been hit the most by mental health problems related to the Covid pandemic, 18.8% answered children and adolescents, 39% young adults, 33.6% adults, and 7.3% elderly subjects.

Among the mental health conditions whose onset was related to the pandemic, agitation and mood disorders (especially anxiety) were the most frequently reported (by 62.3% and 31.5% of respondents, respectively), with similar distributions among different specialists (adult and child psychiatrists: geriatricians and neurologists: general practitioners and pediatricians) (Table 3).

For 75.2% of respondents, the severity of pre-existing psychiatric conditions worsened during the pandemic. When asked about which condition/disease declined the most, agitation and mood disorders were the most frequently reported conditions (Fig. 1).

During the pandemic, 42.1% of respondents treated mental health diseases mainly with face-to-face visits, while 48.5% provided medical services via phone calls, video calls, or e-mail (Table 4).

Regarding the suggested strategies to address future challenges related to the COVID pandemic, 34.6% of respondents recommended providing psychoeducation to the general population for early recognition of mental diseases and teaching strategies for reducing the impact of Covid-related distress. In addition, 12.6% suggested an improvement in telemedicine services, while 12.3% suggested an increase in the resources allocated to community-based care (Fig. 2).

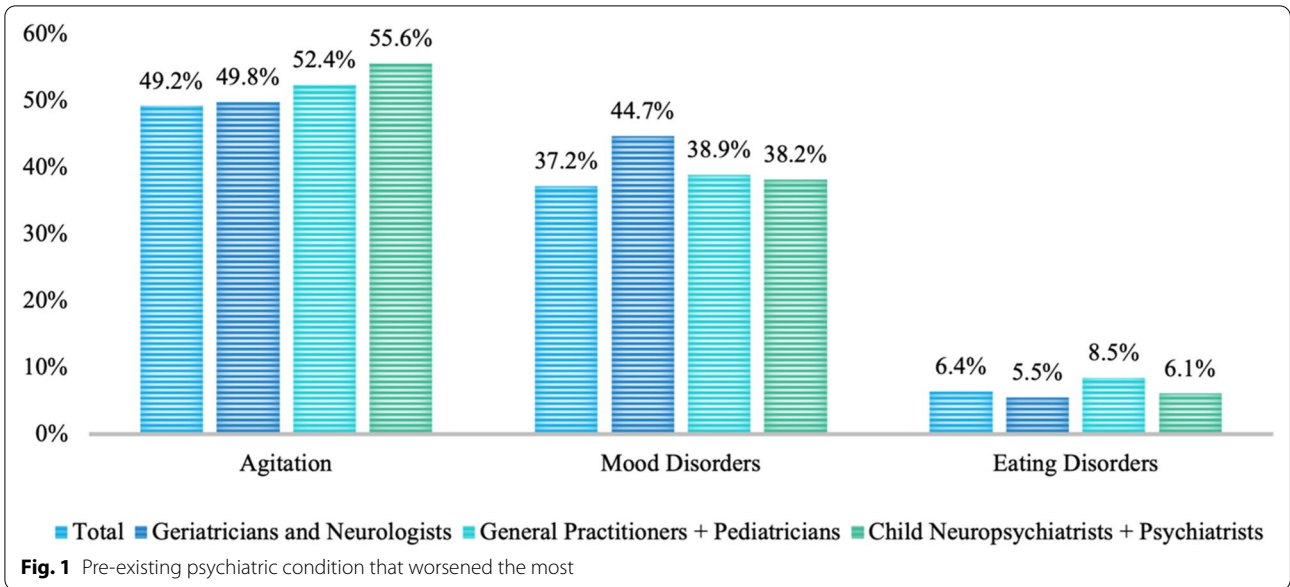
When asked about their opinion regarding the trend of mental illness over the next 12 months, more than 30% predicted an increase in stress-related diseases, while 25.2% were more worried about worsening patients' clinical conditions with previous psychiatric disorders. However, 21% of respondents believed that people's ability to cope with the pandemic distress would increase over the next 12 months (Fig. 3).

**Table 2** Mental disease after COVID-19 outbreak

Do you think that the number of people with mental diseases has increased in the general population after the COVID-19 outbreak?	1040 (81.2%)
How much was the growth rate?	
1–25%	346 (33.3%)
26–50%	354 (34.0%)
51–75%	280 (26.9%)
76–100%	54 (5.2%)
Missing values	6 (0.6%)
In your experience, which gender has been hit the most by mental health problems related to the covid pandemic?	
Females	748 (58.4%)
Males	429 (33.5%)
Missing values or other	104 (8.1%)
In your experience, which of the following age groups has been hit the most by mental health problems related to the covid pandemic?	
Children and adolescents ( $\leq 18$ years)	241 (18.8%)
Young adults (18–30 years)	500 (39.0%)
Adults (31–65 years)	431 (33.6%)
Elderly ( $\geq 65$ years)	93 (7.3%)
Missing values	16 (1.2%)

**Table 3** Most common symptom of psychiatric distress observed in your patients

	Total (n = 1040)	Adult and child psychiatrists (n = 389)	Geriatricians and neurologists (n = 244)	General practitioners and pediatricians (n = 407)
Agitation	648 (62.3%)	243 (62.5%)	143 (58.6%)	262 (64.4%)
Mood disorders	328 (31.5%)	122 (31.4%)	89 (36.5%)	117 (28.7%)
Eating disorders	64 (6.2%)	24 (6.2%)	12 (4.9%)	28 (6.9%)



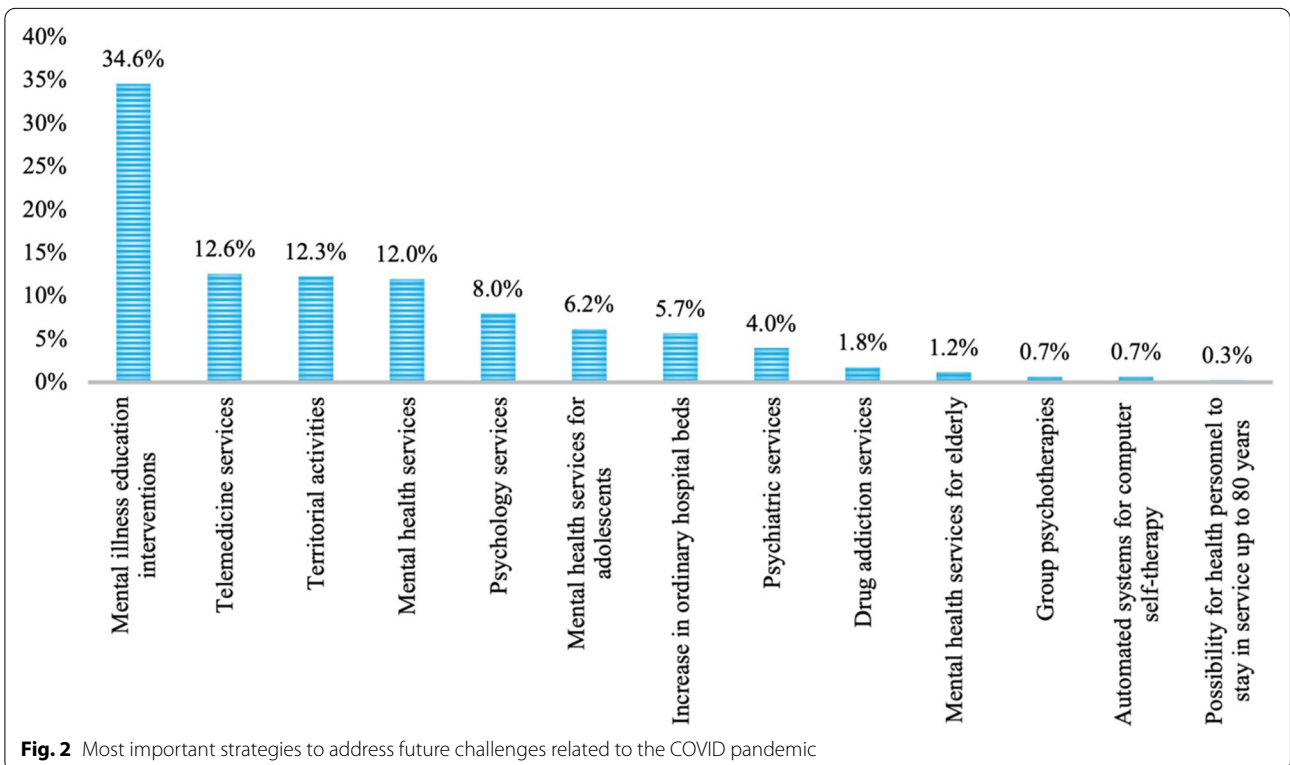
**Table 4** Strategies adopted during the pandemic—which strategies did you use the most during the pandemic to treat your patients with mental health problems?

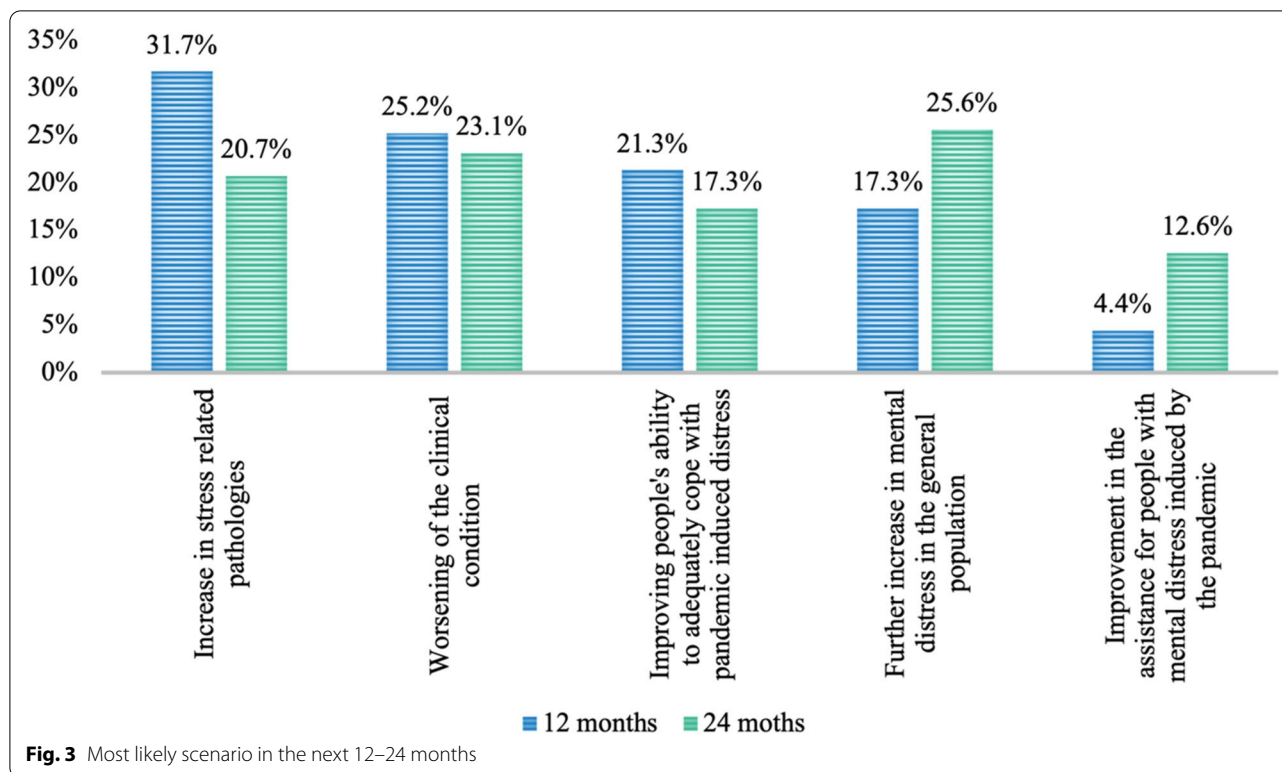
Face-to-face visits	539 (42.1%)
Tele-medicine	621 (48.5%)
Extension of personal and/or telephone availability	121 (9.4%)

**Discussion**

In Italy, after more than 2 years from the first COVID-19 case (February 2020), a sense of uncertainty and fear has remained about the SARS-CoV-2 pandemic.

More than 80% of interviewees reported an increase in mental distress among their patients. Agitation and anxiety were reported among the most prevalent





psychological burdens. From recent epidemiological studies, anxiety and depression related to the COVID-19 outbreak were reported worldwide in the general population with a prevalence of 33% (95%CI 28–38%) and 28% (95%CI 23–32%), respectively [29]. According to Talevi et al. (2020), who reviewed a series of 15 Chinese studies about mental health outcomes of the COVID-19 pandemic, in China, 7–58% of the non-clinical population experienced psychological distress at the initial stage of the COVID-19 outbreak with a range of negative responses, like anxiety, depression, and stress, together with other conditions as insomnia, worries about own health or family, phobias, and physical symptoms [26]. Analyzing the causes of such issues, people's media overexposure and financial and social uncertainty appeared to be the most likely reasons for increased agitation, as emerged in previous major disasters [30]. From SARS in 2003 to H1N1 in 2010, all infectious outbreaks accompanied heavy psychological burdens, such as agitation, anxiety, depression, or panic attacks [31, 32]. Still, the role of the social context increased the sense of uncertainty considerably. The negative effects may have been further boosted by some factors shared by the entire population, such as the global spread of the pandemic, prolonged quarantines, lack of an effective treatment against COVID-19 (only recently in Italy are present specific pharmacological treatments for SARS-CoV-2), and

uncertainty due to the lack of knowledge of vaccination coverage, and disinformation and false reports. For example, on this last topic, since the first vaccine campaign was promoted at the beginning of 2021, the Italian population has been dealt with a series of fake news about COVID-19 vaccines and their possible adverse effects: erroneous information about a high risk of mortality after vaccine injection or use of dangerous substances in vaccine formulations have prevented many Italians from vaccination, generating more increased agitation and anxiety levels. In this context, social media played a crucial role in increasing psychological distress: from our findings, the most exposed mediatic population, like women and young adults, were more subjected to psychological burdens. According to the results of Gao et al. [33], a high prevalence of mental health problems is positively associated with frequent social media exposure, called infodemic: about 82% of participants frequently exposed to social media showed high odds of anxiety and a combination of anxiety and depression [33].

Contrary to other studies, Italian clinicians did not report a high prevalence of psychological distress among the elderly: this result appears encouraging for the Italian healthcare system but needs to be interpreted very cautiously, in light of the limitations described below. From the beginning of the COVID-19 outbreak, the Italian government and, by consequence,

the whole healthcare system have adopted a series of precautions to protect the weakest population: older people were advised to remain at home and protect themselves by avoiding interaction with non-cohabiting family members. These precautions may have increased the sense of protection of the elderly, who better respond in terms of psychological distress to the subsequent COVID-19 waves.

According to our findings, patients with previous mental disorders were particularly affected by the COVID-19-related psychological distress. Increased levels of anxiety and agitation were noted among the general population, but were even more severe in patients with a previous history of psychological or psychiatric distress/disease.

Many interviewees preferred to maintain face-to-face visits at the first onset of mental distress and during the follow-up period. However, many other resources such as video calls or remote psychotherapy were adopted. As for the trends and predictions for the future of mental health, an increase in all stress-related pathologies and a worsening of clinical conditions are expected from many clinicians within 12–24 months. Despite these negative expectations, clinicians believe that an improvement in people's ability to cope with pandemic-induced stress will also be observed.

This study has some limitations. First, it was conducted on clinicians and not on their patients, so epidemiological conclusions for the actual impact of COVID-19 after the acute pandemic phase were not possible. Second, responses were collected during the fourth COVID-19 wave characterized by the prevalence of a new variant (Omicron), about which a higher diffusion capacity than the Delta variant and an initial low level of knowledge about omicron negative effects could have incremented the request for psychological support. Combined, these factors could have intensified interviewees' perception of patients' psychological discomfort. Third, this study, reflecting physicians' views, could also be defined as a qualitative study, with all the limitations that arise from this type of studies. Indeed, our sample was not necessarily representative of the thousands of doctors who practice in Italy. Furthermore, given that participants were recruited through E-mails and social media, we cannot exclude a sampling bias that would compromise the validity of the study. Finally, physician burnout was not controlled for and this further limits the validity of our survey, given that clinicians' opinions on patients' mental health is likely also influenced by the mental health and general level of physician burnout.

## Conclusions

Our study has shown the remarkable capability of Italian clinicians to adopt new strategies to manage an escalating request for psychological and psychiatric support. The COVID-19 pandemic has presented an unprecedented scenario for the mental health in the general population and for mental health providers. These lasts appear well cognizant of the past, current and future challenges, but also relatively confident on the ability to face them at the best, especially if strategies and tools such as psychoeducation and telemedicine are correctly implemented and funded.

## Acknowledgements

Not applicable.

## Author contributions

All authors contributed to the concept and design of the study and the collection and interpretation of the data. AMF and DRA carried out the survey and provided statistical analyses. AC and AF drafted the manuscript, and all authors provided critical revisions. All authors read and approved the final manuscript.

## Funding

This publication, its contents and the survey were carried out independently by Ethos Srl with the non-conditioning contribution of Viatrix.

## Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon request.

## Declarations

### Ethics approval and consent to participate

Not applicable.

### Consent for publication

Not applicable.

### Competing interests

A Cuomo is/has been a consultant and a speaker for Angelini, Glaxo Smith Kline, Lundbeck, Janssen, Otsuka, Pfizer, Recordati, and Viatrix. A Fagiolini has received research grants and/or has been a consultant for, and/or has been a speaker for Allergan, Angelini, Apsen, Generici DOC, Lundbeck, Italfarmaco, Janssen, Otsuka, Pfizer, Recordati, Roche, Sonofi Aventis, Sunovion, Viatrix. Other authors declare no competing interests.

### Author details

<sup>1</sup>Department of Molecular Medicine, University of Siena, Siena, Italy. <sup>2</sup>Section of Psychiatry, Department of Neuroscience, Ophthalmology, Genetics and Infant-Maternal Science, Istituti di Ricovero e Cura a Carattere Scientifico (IRCCS) Ospedale Policlinico San Martino, University of Genoa, Genoa, Italy. <sup>3</sup>Department of Methods and Models for Economy, Territory, and Finance – Sapienza Università di Roma, Roma, Italy. <sup>4</sup>Neuropsychiatric Clinic, Villa Von Siebenthal, Genzano di Roma, Italy. <sup>5</sup>Dipartimento di Salute Mentale, ASL Napoli 3 Sud, Napoli, Italy. <sup>6</sup>Center for Cognitive Disorders and Dementia, Health County of Ferrara, Cento, Italy. <sup>7</sup>Department of Neuroscience, University of Turin, Turin, Italy.

Received: 16 June 2022 Accepted: 28 July 2022

Published online: 10 August 2022

## References

1. Rojnic Kuzman M, Vahip S, Fiorillo A, Beezhold J, Pinto da Costa M, Skugarevsky O, Dom G, Pajevic I, Peles AM, Mohr P, et al. Mental health

- services during the first wave of the COVID-19 pandemic in Europe: results from the EPA ambassadors survey and implications for clinical practice. *Eur Psychiatry*. 2021;64:e41.
2. Singh S, Roy D, Sinha K, Parveen S, Sharma G, Joshi G. Impact of COVID-19 and lockdown on mental health of children and adolescents: a narrative review with recommendations. *Psychiatry Res*. 2020;293:113429.
  3. Sepulveda-Loyola W, Rodriguez-Sanchez I, Perez-Rodriguez P, Ganz F, Torralba R, Oliveira DV, Rodriguez-Manas L. Impact of social isolation due to COVID-19 on health in older people: mental and physical effects and recommendations. *J Nutr Health Aging*. 2020;24:938–47.
  4. Tomfohr-Madsen LM, Racine N, Giesbrecht GF, Lebel C, Madigan S. Depression and anxiety in pregnancy during COVID-19: a rapid review and meta-analysis. *Psychiatry Res*. 2021;300:113912.
  5. Mheidly N, Fares MY, Fares J. Coping with stress and burnout associated with telecommunication and online learning. *Front Public Health*. 2020;8:574969.
  6. Chu TH, Yeo TED, Su Y. Effects of exposure to COVID-19 news and information: a meta-analysis of media use and uncertainty-related responses during the pandemic. *J Mass Commun Q*. 2022;99:89–112.
  7. He X, Zhang Y, Chen M, Zhang J, Zou W, Luo Y. Media exposure to COVID-19 predicted acute stress: a moderated mediation model of intolerance of uncertainty and perceived social support. *Front Psychiatry*. 2020;11:613368.
  8. Bhaskar S, Bradley S, Chattu VK, Adishes A, Nurtazina A, Kyrykbayeva S, Sakhamuri S, Moguilner S, Pandya S, Schroeder S, et al. Telemedicine as the new outpatient clinic gone digital: position paper from the pandemic health system REsilience PROGRAM (REPROGRAM) international consortium (Part 2). *Front Public Health*. 2020;8:410.
  9. Breton M, Sullivan EE, Deville-Stoetzel N, McKinstry D, DePuccio M, Sriharan A, Deslauriers V, Dong A, McAlearney AS. Telehealth challenges during COVID-19 as reported by primary healthcare physicians in Quebec and Massachusetts. *BMC Fam Pract*. 2021;22:192.
  10. Kichloo A, Albosta M, Dettloff K, Wani F, El-Amir Z, Singh J, Aljadah M, Chakinala RC, Kanugula AK, Solanki S, et al. Telemedicine, the current COVID-19 pandemic and the future: a narrative review and perspectives moving forward in the USA. *Fam Med Community Health*. 2020;8:e000530.
  11. Farsalinos K, Poulas K, Kouretas D, Vantarakis A, Leotsinidis M, Kouvelas D, Docea AO, Kostoff R, Gerotziapas GT, Antoniou MN, et al. Improved strategies to counter the COVID-19 pandemic: lockdowns vs. primary and community healthcare. *Toxicol Rep*. 2021;8:1–9.
  12. Istituto Superiore di Sanità. Prevention and response to COVID-19: evolution of strategy and planning in the transition phase for the autumn-winter season Roma: Ministero della Salute. 2020. [https://www.iss.it/documenti/5430402/0/COVID+19\\_+strategy\\_ISS\\_MoH+%281%29.pdf/f0d91693-c7ce-880b-e554-643c049ea0f3?t=1604675600974](https://www.iss.it/documenti/5430402/0/COVID+19_+strategy_ISS_MoH+%281%29.pdf/f0d91693-c7ce-880b-e554-643c049ea0f3?t=1604675600974). Accessed 10 July 2022.
  13. Mrklas K, Shalaby R, Hrabok M, Gusnowski A, Vuong W, Surood S, Urchuk L, Li D, Li XM, Greenshaw AJ, et al. Prevalence of perceived stress, anxiety, depression, and obsessive-compulsive symptoms in health care workers and other workers in Alberta during the COVID-19 pandemic: cross-sectional survey. *JMIR Ment Health*. 2020;7:e22408.
  14. Zhao Y, Guo J, Liu S, Aizezi M, Zeng Q, Sidike A, Abliz R, Kudireti A, Xie Y, Taineikuli A, et al. Prevalence and related factors of depression, anxiety, acute stress, and insomnia symptoms among medical staffs experiencing the second wave of COVID-19 pandemic in Xinjiang. *China Front Public Health*. 2021;9:671400.
  15. Sahebi A, Nejati-Zarnaqi B, Moayedi S, Yousefi K, Torres M, Golitaleb M. The prevalence of anxiety and depression among healthcare workers during the COVID-19 pandemic: an umbrella review of meta-analyses. *Prog Neuropsychopharmacol Biol Psychiatry*. 2021;107:110247.
  16. Amendola S, Spensieri V, Hengartner MP, Cerutti R. Mental health of Italian adults during COVID-19 pandemic. *Br J Health Psychol*. 2021;26:644–56.
  17. Javed B, Sarwer A, Soto EB, Mashwani ZU. The coronavirus (COVID-19) pandemic's impact on mental health. *Int J Health Plann Manage*. 2020;35:993–6.
  18. Fiorillo A, Sampogna G, Giallonardo V, Del Vecchio V, Luciano M, Albert U, Carmassi C, Carra G, Cirulli F, Dell'Osso B, et al. Effects of the lockdown on the mental health of the general population during the COVID-19 pandemic in Italy: results from the COMET collaborative network. *Eur Psychiatry*. 2020;63:e87.
  19. Connolly SL, Miller CJ, Gifford AL, Charness ME. Perceptions and use of telehealth among mental health, primary, and specialty care clinicians during the COVID-19 pandemic. *JAMA Netw Open*. 2022;5:e2216401.
  20. Sugarman DE, Horvitz LE, Greenfield SF, Busch AB. Clinicians' perceptions of rapid scale-up of telehealth services in outpatient mental health treatment. *Telemed J E Health*. 2021;27:1399–408.
  21. Montoya MI, Kogan CS, Rebello TJ, Sadowska K, Garcia-Pacheco JA, Khoury B, Kulygina M, Matsumoto C, Robles R, Huang J, et al. An international survey examining the impact of the COVID-19 pandemic on telehealth use among mental health professionals. *J Psychiatr Res*. 2022;148:188–96.
  22. Almalky AM, Alhaidar FA. Patients' satisfaction with telepsychiatry services at a University Hospital in Riyadh during the COVID-19 pandemic. *Cureus*. 2021;13:e17307.
  23. Alexiou E, Steingrimsson S, Akerstrom M, Jonsdottir IH, Ahlstrom L, Finizia C, Wijk H, Degl'Innocenti A. A survey of psychiatric healthcare workers' perception of working environment and possibility to recover before and after the first wave of COVID-19 in Sweden. *Front Psychiatry*. 2021;12:770955.
  24. Aneja P, Singh I, Singh B, Kundi PS, Singh I, Kathiravan S, Singh SM. Physicians' reactions to COVID-19: the results of a preliminary international internet survey. *Psychiatr Danub*. 2021;33:620–5.
  25. Ching BC, Bennett SD, Heyman I, Liang H, Catanzano M, Fifield K, Berger Z, Gray S, Hewson E, Bryon M, et al. A survey of mental health professionals in a paediatric hospital during COVID-19. *Clin Child Psychol Psychiatry*. 2022;27:122–35.
  26. Talevi D, Socci V, Carai M, Carnaghi G, Faleri S, Trebbi E, di Bernardo A, Capelli F, Pacitti F. Mental health outcomes of the COVID-19 pandemic. *Riv Psichiatr*. 2020;55:137–44.
  27. GAMIAN - Europe and the European Psychiatric Association. COVID-19 SURVEY II REPORT—are mental health needs being met by treatment services? Patients and clinicians' perspectives. 2022. <https://www.gamian.eu/wp-content/uploads/COVID-19-SURVEY-II-REPORT.pdf>. Accessed 24 July 2022.
  28. Chatterjee SS, Bhattacharyya R, Bhattacharyya S, Gupta S, Das S, Banerjee BB. Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. *Indian J Psychiatry*. 2020;62:257–65.
  29. Luo M, Guo L, Yu M, Jiang W, Wang H. The psychological and mental impact of coronavirus disease 2019 (COVID-19) on medical staff and general public—a systematic review and meta-analysis. *Psychiatry Res*. 2020;291:113190.
  30. Allsopp K, Brewin CR, Barrett A, Williams R, Hind D, Chitsabesan P, French P. Responding to mental health needs after terror attacks. *BMJ*. 2019;366:l4828.
  31. Maunder R, Hunter J, Vincent L, Bennett J, Peladeau N, Leszcz M, Sadavoy J, Verhaeghe LM, Steinberg R, Mazzulli T. The immediate psychological and occupational impact of the 2003 SARS outbreak in a teaching hospital. *CMAJ*. 2003;168:1245–51.
  32. Xiang YT, Yang Y, Li W, Zhang L, Zhang Q, Cheung T, Ng CH. Timely mental health care for the 2019 novel coronavirus outbreak is urgently needed. *Lancet Psychiatry*. 2020;7:228–9.
  33. Gao J, Zheng P, Jia Y, Chen H, Mao Y, Chen S, Wang Y, Fu H, Dai J. Mental health problems and social media exposure during COVID-19 outbreak. *PLoS ONE*. 2020;15:e0231924.

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.