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Short communication

Burnout and somatic symptoms among frontline healthcare professionals at the peak of the Italian COVID-19 pandemic.

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A B S T R A C T

Italy is among the most severely hit nations in terms of hospital patients’ overload, and its healthcare workforce is struggling to cope with challenges that could threaten their own wellbeing. In this scenario, understanding the health-related consequences of COVID-19 outbreak on Italian frontline healthcare professionals is urgent. Our study provides a first account of the huge psycho-physical impact of COVID-19 outbreak for healthcare workers in Italy. Italian healthcare professionals reported relevant work-related psychological pressure, emotional burnout and somatic symptoms. This result requires attention as previous studies showed that emotional distress is associated with long-lasting effect on professionals’ health, including risk of post-traumatic stress disorder.

1. Background

The COVID-19 outbreak has placed extraordinary demands upon healthcare systems worldwide. While we are writing (April 26, 2020), the World Health Organization (WHO) reported 2,626,321 confirmed cases including 181,938 deaths in 213 Countries. Italy is grappling with the worst outbreak, with over 106,527 confirmed cases and around 25,969 deaths (WHO, 2020). Therefore, healthcare professionals dealing with COVID-19 are under increased psychological and physical pressure, resembling previous epidemics conditions (Styra et al., 2008). Italy is among the most severely hit nations in terms of hospital patients’ overload, and its healthcare workforce struggles to cope with challenges which could threaten their wellbeing. In this scenario, understanding the health-related consequences of COVID-19 outbreak on frontline Italian healthcare workers is today urgent to provide timely interventions to protect their health (The Lancet, 2020).

Objective: This study described the levels of professionals’ burnout and physical symptoms of Italian frontline healthcare workers directly involved in the care of patients with COVID-19 at the peak of the pandemic in this country, comparing them across genders and occupational role. It also investigated the relationship between professionals’ burnout and negative health symptoms.

2. Methods and findings

A convenience sample of 1,153 Italian healthcare professionals was invited to fill an online questionnaire including the Maslach Burnout Inventory (MBI) (Maslach et al., 1997) and ad-hoc items to assess psycho-somatic symptoms and self-perceived general health status. For the MBI inventory, cut-off criteria for Italian healthcare workers have been adopted (Sirigatti and Stefanile, 1993). Of the 1,153 professionals involved, 376 participants reported to have directly assisted COVID-19 infected patients. They have been selected for the present study as they are the ones more at risk to develop COVID-related health consequences, according to other studies (Lai et al., 2020; Styra et al., 2008). Table 1 describes participants’ characteristics.

A large percentage of healthcare professionals reported high scores in at least one of the MBI domains: in particular, more than 1 out of 3 showed high score of Emotional Exhaustion and 1 out of 4 reported at high levels of Depersonalization, while only around 15% reported low levels of Personal Gratification. A series of one-sample t-test was used to compare the means in our sample with normative values: analyses revealed that levels of emotional exhaustion were higher than in the normative sample (t(320)=3.765; p<.001; difference in means = 2.53), while levels of depersonalization appear somehow lower (t(320) = -2.906; p = .004; difference in means = -.91) and Personal Gratification higher (t(320) = 11.856; p <.001; difference in means = 5.02).

The 45% of the sample experienced - with high frequency – at least one physical symptom in the previous 4 weeks. In particular, increased irritability, change in food habits, difficulty falling asleep and muscle tension were very frequently experienced by the majority of the respondents.

Pearson’s correlations showed that higher levels of burnout were indeed associated with a more frequent experience of symptoms (calculated by averaging answers to the set of questions). In particular, both higher levels of Emotional Exhaustion and Depersonalization were linked with more frequent experiences of symptoms (respectively,
## Table 1
Sample characteristics

| Socio-demographics | Professional characteristics |
|--------------------|-----------------------------|
| **Gender**         | Length of work experience   |
| Male               | Min                         |
| Female             | Max                         |
| Age                | Average (SD)                |
| **Min**            | %                           |
| **Max**            | 15 (11)                     |
| **Average (SD)**   |                             |
| **Marital status** |                             |
| Married/living together | 228 60.6                 |
| Single             |                             |
| Divorced/separated |                             |
| Widow(er)          |                             |
| Other              |                             |
| **Occupational role** | 271 72.1               |
| **Physician**      | 67                          |
| **Other professionals** | 38 10.1                |
| **Missing**        | 4 1.1                       |
| **Personal experience with COVID-19** |                             |
| Have you been tested for COVID-19? | n %                     |
| No                 | 242 64.4                    |
| Yes                | 126 33.5                    |
| I'd rather not answer | 3 0.8                    |
| Missing            | 5 1.3                       |
| Have you been quarantined? | n %                     |
| No                 | 335 89.1                    |
| Yes                | 32 8.5                      |
| I'd rather not answer | 5 1.3                    |
| Missing            | 4 1.1                       |
| One of your familiars has been found positive to COVID-19? | n %                     |
| No                 | 347 92.3                    |
| Yes                | 19 5.1                      |
| I'd rather not answer | 6 1.6                    |
| Missing            | 4 1.1                       |
| **Psychological characteristics** | Perceived impact on psychological and physical health |
| Emotional exhaustion (MBI) | n %                     |
| High (> 24)        | 139 37.0                    |
| Moderate (15-23)   | 86 22.9                     |
| Low (= 14)         | 96 25.5                     |
| Missing            | 55 14.6                     |
| Average score (SD) | 22.7 (12.1)                 |
| Min score          | 0                           |
| Max score          | 53                          |
| Depression (MBI)   | n %                         |
| High (> 8)         | 93 24.7                     |
| Moderate (4-8)     | 102 27.1                    |
| Low (≤ 3)          | 126 33.5                    |
| Missing            | 55 14.6                     |
| Average score (SD) | 6.1 (5.7)                   |
| Min score          | 0                           |
| Max score          | 28                          |
| Personal Gratification (MBI) | n %                     |
| High (> 37)        | 200 53.2                    |
| Moderate (30-36)   | 72 19.1                     |
| Low (≤ 29)         | 49 15.3                     |
| Missing            | 55 14.6                     |
| Average score (SD) | 37.5 (7.6)                  |
| Min score          | 13                         |
| Max score          | 48                          |
| In general, would you say your health is: | n %                     |
| Poor               | 2 0.5                       |
| Fair               | 24 6.4                      |
| Good               | 100 26.6                    |
| Very good          | 144 38.3                    |
| Excellent          | 47 12.5                     |
| Missing            | 59 15.7                     |
| Average score (SD) | 3.66                       |

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3. Discussions

This research highlighted the huge psychological and physical impact of COVID-19 emergency outbreak on Italian healthcare workers. Professionals who are directly involved in the care of patients with COVID-19 reported significant work-related psychological pressure and frequent somatic symptoms. Levels of Emotional Exhaustion appeared higher than normative values and the percentage of workers with high levels of Exhaustion was significantly higher than the one found in other Italian samples before COVID-19 outbreak (Bressi et al., 2008) or in other healthcare settings during the SARS pandemic (Maunder et al., 2006).

This result requires special attention as previous studies showed that emotional distress is frequently associated with suboptimal patient care and professional inefficiencies along with long-lasting effect on health professionals' health status (Panagioti et al., 2018). On the other hand, healthcare workers seemed to be still capable of finding some gratification from their job, even if only a rather small amount of them appeared to have low levels of Personal Gratification, which may be considered as a relevant protective factor for the professionals' mental health, as demonstrated in previous studies (Bonetti et al., 2019; Zwack and Schweitzer, 2013).

Our study has some limitations. First, data obtained from self-reported questionnaires were not compared with clinical data on healthcare professionals' health. Second, the sample was not representative of the Italian healthcare workers population and the study was performed in the early outbreak: these aspects may limit the generalizability of the findings and the comparison with MBI normative data. Follow-up, longitudinal studies should assess long-lasting effects of psychological and physical symptoms once the imminent threat of COVID-19 recovers.

Our study presents data after 5 weeks from the beginning of the COVID-19 pandemic in Italy and provides early insight into the urgent need to support healthcare workers who are at higher risk of negative health consequences. We strongly recommend to provide timely counseling services and support systems to mitigate the massive impact of this emergency on their actual and future wellbeing.

CRediT authorship contribution statement

Serena Barello: Conceptualization, Methodology, Writing - original draft, Supervision, Writing - review & editing. Lorenzo Palamenghi: Writing - original draft, Data curation, Formal analysis. Guendalina Graffigna: Conceptualization, Methodology, Supervision.

Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Supplementary materials

Supplementary material associated with this article can be found, in the online version, at doi:10.1016/j.jpsychres.2020.113129.

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