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COMPASSION FATIGUE, LONELINESS, AND HOPELESSNESS IN HEALTHCARE WORKERS: WHAT REMAINS OF THE COVID-19 PANDEMIC?

Francesco Franza, Nicoletta Fiorentino, Annalisa Soddu, Luigi Calabrese, Barbara Solomita, Emilia Coppola, Nando Tucci, Giovanna Pisano, Gabriele Speranza, Pietro Paladino & Giuseppe Rosato

Rehabilitation Psychiatric Center "Villa dei Pini", Avellino, Italy

SUMMARY

Although the end of the critical phase of the COVID-19 pandemic has been declared, its consequences are still observed in the general population and some categories of workers. HCWs have had to face the battle against this disease on the front lines. In our study, we evaluated the current state of the consequences of the pandemic on compassion fatigue, loneliness, empathy, anxiety, and hopelessness in a group of 71 HCWs from a rehabilitation center. This data, collected in the time of May-June 2024 (T2), was compared in the same sample in 2020 (T0) and 2023 (T1). The results highlighted increased burnout (P-Bonferroni: 0.005) and feelings of loneliness in T2 (P-Bonferroni: 0.005). Importantly, the results of the compassion satisfaction remained stable, providing reassurance about the resilience of HCWs. Secondary Trauma results decreased in T2, indicating less psychological pressure associated with COVID-19 pathology.

Key words: *compassion fatigue – loneliness – hopelessness – burnout - empathy*

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INTRODUCTION

The COVID-19 pandemic has profoundly affected the general population around the world. During that period, discomfort and quality of life increased in the general population, particularly for vulnerable populations (Fountoulakis et al. 2024). Although still affected by the consequences of this health catastrophe, we are trying to return to pre-pandemic personal, family, and social habits quickly. Healthcare workers (HCWs) have been the most affected by the pandemic and its outcomes directly and indirectly. The first consequences were due to the direct action of the virus on the body, with a considerable number of victims among healthcare workers. The indirect consequences are increased psychological illnesses, workplace discomfort, emotional burdens, and stress. The emotional burden was exceptionally high during the pandemic peaks. Exposure to traumatic events (Franza et al. 2024), being spectators of stories of suffering, the workload with excessive work shifts, and the impotence in the face of an unknown enemy are just some of the aspects that have tested the psychological health of health workers (Minò et al. 2023, Vacca et al. 2023, Yildiz et al. 2022).

The impact of the COVID-19 pandemic on work-related stress and the risk for healthcare workers' mental health during the waves of the pandemic has been investigated by several studies (Epifanio et al. 2023). Among the most studied factors, levels of anxiety, depression, anger and loneliness are those that have had significantly altered results (Mert et al. 2022). Interestingly, the stress levels in the HCWs did not follow a trend consistent with expectations but highlighted contradictory and not easily identifiable aspects. Indeed, increased levels of stress, burnout, compassion fatigue, and an increase in pathologies, as well as anxiety and depression, reached higher levels in the final stages of the pandemic period. Several studies have shown this trend (Garnett et al. 2023, Zhao et al. 2023). The highest scores were observed in some professional categories, such as nurses. At the same time, lower levels were maintained in other categories of workers (e.g., physicians, and social health workers) (Petit et al. 2024). Stress levels can be associated with some personal characteristics of healthcare workers and their ability to relate to the emotions of their patients (e.g., empathy, intolerance of uncertainty) (Çağlar Özdoğan 2023, Castilla et al. 2022). Among the various personal characteristics, hopelessness may have played an essential role in the genesis of psychological distress during the pandemic (Franza et al. 2023).

Our working group carried out several studies during the pandemic period, which confirmed the data from the international scientific literature (Conte et al. 2023, Franza et al. 2020). This study aimed to evaluate the current data from our previous research on a homologous group of workers during and after declaring the end of the COVID-19 pandemic (WHO 2023). The aim was to evaluate the following aspects:

- The differences in the incidence of hopelessness, compassion fatigue, compassion satisfaction, and loneliness.
- To assess the several groups of workers who most highlighted psychological symptoms (anxiety, depression, burnout).
- To assess the correlation of empathy, loneliness, hopelessness, and their roles in the relationship between burnout and well-being at work.

METHODS

Seventy-one HealthCare Workers (HCWs) were recruited into our observational study (44 females, 23 males; mean age: tot: 43.79 yrs ± 12.26 yrs; females: 49.01 yrs ±11.80 yrs; males: 46.56 yrs ± 12.71 yrs) by Rehabilitation Centre "Villa dei Pini" located in Avellino, Italy. Recruitment was voluntary between May and June 2024 (M-J-24). The research protocol material, distributed to all HCWs of Multidisciplinary (psychiatric, cardiologic, orthopedic, neurological and respiratory) Rehabilitation Centre with the supervision of study collaborators, was returned and completed anonymously, marking a significant step in our research.

As in our previous studies (Franza et al. 2020, 2023), the material collected allowed for a comprehensive understanding of the healthcare workers' experiences in different settings. The following epidemiological data were collected and recorded in each group of HCWs: age, sex, work, and educational years. Workers suffering from psychiatric pathologies or undergoing pharmacological treatment with psychiatric drugs were excluded from the study. Several rating scales were administered to all workers in the M-J-24 time (T2), as they were analyzed with data obtained with the same scales and in the same group of HCWs previously during the pandemic period.

All staff in this study were asked HCWs to complete anonymously the following scales:

Professional Quality of Life (ProQoL)-Compassion Satisfaction and Fatigue Subscales (Stamm 2009); Beck Hopelessness Scale (BHS) (Beck & Steer 1993); Balanced Emotional Empathy Scale (BEES) (Mehrabian 1996), UCLA Loneliness Scale (Russel et al. 1978); Stress and Anxiety to Viral Epidemic - 9 items SAVE-9 (Tavormina et al. 2020).

ProQoL, CBI, and BHS data (T2) were compared with previous studies of 2020 (T0) and 2023 (T1); SAVE-9, BEES and UCLA Loneliness Scale data were compared to 2023 (T1).

Statistical significance was ascertained by t-tests or repeated measures ANOVA (to test multiple groups) with EZAnalyze 3.1 Excel Platform. Student's t-test were used to compare the results of administrated scales in any group. Demographic variables and evaluation questions were subjected to descriptive analysis.

RESULTS

In table 1, some epidemiological data on HCWs are included.

Overall, 71 participants completed the scales and assessments. In Figure 1 and 2, results of the, ProQOL, UCLA Loneliness Scale, BEES, SAVE-9, and BHS scales are shown.

Table 1. HCWs epidemiological data

		Age (mean yrs)		
		Total	f	m
HCWs				
HCAs	29 (19 f, 10 m)	42.10	43.16	40.10
Nurses	24 (19 f, 8 m)	42.71	41.25	45.63
PPPs	9 (6 f, 3 m)	59.11	56.33	60.50
Therapist	9 (6 f, 3 m)	36.78	33.83	42.67
Total	71 (44 f, 27 m)	43.98	44.53	43.06
Psych Rehab				
HCAs	20 (12 f, 8 m)	43.20	46.42	38.38
Nurses	16 (11 f, 5 m)	41.25	41.46	40.80
PPPs	6 (3 f, 3 m)	59.50	56.67	62.33
Therapist	6 (4 f, 2 m)	38.33	37.00	39.67
Total	48 (30 f, 18 m)	43.98	44.53	43.06
Multidisc Rehab				
HCAs	9 (7 f, 2 m)	43.39	40.14	48.44
Nurses	8 (6 f, 2 m)	45.63	46.80	43.67
PPPs	3 (3 m)	58.00	-	58.00
Therapist	3 (2 f, 1 m)	34.00	33.00	36.00
Total	23 (14 f, 9 f)	43.39	40.14	48.44

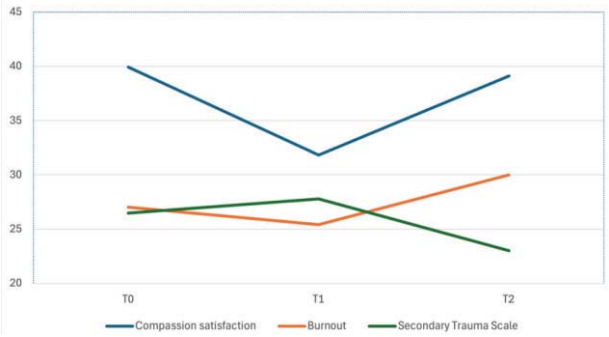

Figure 1. ProQOL subscales data

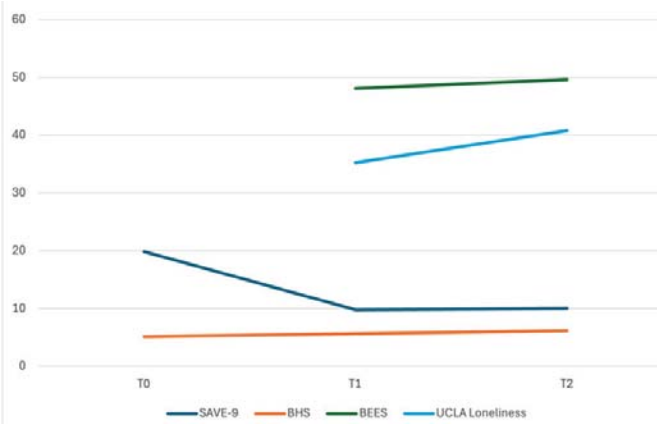

Figure 2. SAVE-9, BHS BEES, UCLA loneliness scale data

Professional Quality of Life (ProQOL)

The ProQOL assessed three subscales. The Compassion Satisfaction subscale highlighted in all HCWs a percentage of 45.07% and 49.29% of values included in the average and high range, respectively. However, the

differences are statistically significant only in a repeated measure (T0 vs T1; mean difference: 8.099; P-Bonferroni: 0.0005; Eta Squared: 0.348). The results between T0 vs T2 are comparable (mean difference: 0.817; P-Bonferroni: 1.000, Eta Squared: 0.005).

The results of the Bornout subscale indicate that at T2, 91.55% of the HCWs analyzed have an average grade of score (total mean score: 30.014 ±5.376 (SD)). It is interesting to note the high increase in the burnout subscale score in T2 compared to T0 and T1. The differences are statistically significant in T0 vs T2 (mean difference: 2.986; P-Bonferroni: 0.013; Eta Squared 0.018) and T1 vs T2 (mean difference: 4.606; P-Bonferroni: 0.001; Eta Squared 0.169).

The results of the Secondary Trauma Scale subscale show that in T2, the total score in all HCWs analyzed is the lowest compared to other periods. In particular, the differences between T1 and T2 are statistically significant (mean difference: 4.775; P-Bonferroni: 0.003; Eta Squared: 0.143).

Outcomes in each HCW are being evaluated. However, from the preliminary analysis, it emerges that two groups of workers have higher scores, especially in the burnout subscale (nurses and physicians, respectively).

Hopelessness (BHS)

The results indicate that 22/71 HCWs (30.96%) scored ≥ 9 (mean total: 6.169, SD ±4.067; females: 6.273, SD ±3.719; males: 6.00, SD ±4.649). This BHS score represents the threshold value of a reference to indicate the presence and intensity of negative attitudes toward the future (pessimism).

This percentage is much higher than that observed in 2020 (during the initial phase of the COVID-19 pandemic) (16.66 %) (Franza et al. 2020) and in 2023 (23.94%) (Conte et al. 2023). The highest mean score was observed in the group of doctors/psychologists (mean score: 7.222), Social Health Care (mean score: 6.621), and Nurses (mean score: 5.792). In all HCWs, the mean total score in T2 was 6.169, while in T0 and T1 was 5.155 and 5.667, respectively.

UCLA Loneliness Scale

The results show an overall mean score in all HCWs of 40.775 (SD ±10.27), indicating a moderate degree of loneliness. The highest mean score was highlighted in the nurses' group (mean score: 42.174), with a percentage of 60.87% in a moderate degree score. No HCWs presented a score entering the high-grade range. A high score (mean score: 41.903) was observed in the group of social HealthCare Workers (sHCWs) with a percentage of 51.61% in the moderate range. In this group, the highest percentage of HCWs was observed in the moderately high group (22.58%). It was only possible to compare this data with that of T1 (2023). These data (T2) could only be compared with that of T1 (2023). The difference between T1 and T2 was statistically significant (mean difference: -5.563, Eta Squared: 0.168; T-Score: 3.791; $p<0.005$).

Balanced Emotional Empathy Scale (BEES)

The results showed a total mean score of 49.634 (SD ±8.813), indicating a score in the moderate range. Notably, a significant 73.24% of all HCWs had a moderate score, making it the most prevalent result, and only 12.67% had a high range score. The highest scores were observed in the Psychologist/Physicians group (mean score: 53.111 (SD±8.813)). Importantly, the difference between T1 and T2 was not statistically significant (mean differences: -1.563; Eta Squared: 0.008; p=0.447), providing reassurance about the stability of the HCWs' empathic state. No significant percentage variations were found, reinforcing the connection among the majority of HCWs in the final wave of the COVID-19 pandemic.

Stress and Anxiety to Viral Epidemic – 9 (SAVE-9)

The SAVE-9 (Stress and Anxiety to Viral Epidemics - 9 items) scale has been developed to assess work anxiety and stress in response to the viral epidemic among health professionals who work to prevent the spread of the virus and treat infected people. It adopted a two-factor structure: (1) anxiety for viral epidemics and (2) work-related stress associated with viral epidemics. The ANOVA results indicate that at least two of the repeated measures differed significantly (T0 vs T1= mean difference: 10.056, P-Bonferroni: 0.0005; Eta squared.: 0.529; T0 vs T2: mean difference: 9.831; P-Bonferroni: 0.0005; Eta squared. :0.513). However, the mean scores between T1 and T2 were not statistically different (mean difference: 0.225; P-Bonferroni: 1.000). The mean score in each analyzed time did not exceed the breakpoint. Notably, the percentages of total HCWs that exceeded the breakpoint are of interest. In T0, during the initial phases of the pandemic, 44.48% of HCWs had high scores, indicating an emotional load directly associated with the COVID-19 pandemic. However, in T1 and T2, a positive trend was observed with a significant decrease in this percentage (8.46% and 7.04%, in T1 and T2, respectively), which is an encouraging sign.

DISCUSSION

At the end of the COVID-19 pandemic crisis, the emotional stress and psychological burden on HCWs remains high, a testament to their unwavering dedication.

Our study shows that at the end of the critical phase of the COVID-19 pandemic, the HCWs analyzed showed good levels of compassion and satisfaction. These data likely indicate a reduced emotional and experiential burden of COVID-19 on the HCWs analyzed. High hopelessness scores may give pause for thought, but they also reflect the sacrifices made by these professionals. The end of the pandemic brought this legacy, a legacy of resilience and sacrifice. Alongside a significant decrease in concern about the infectious viral disease, we observe greater distrust and an absence of hope. With pessimism towards the future in general. The sense of loneliness little involved the group operators analyzed during the pandemic's initial phase. These findings highlight the importance of ongoing research to understand and address loneliness in healthcare workers. It's crucial that we provide the necessary support to address the emotional toll on these professionals. Paradoxically, the need for adequate care created a sense of belonging and group unity, a powerful display of their commitment. The high scores in the post-pandemic phase are significant, a reflection of their selflessness. Empathy is a common factor in HCWs, whose levels remained stable in the final stages of the pandemic. These results are also significant in anxiety values, further highlighting the emotional toll of their work.

CONCLUSIONS

The return to a post-pandemic period has left a significant stress load on HCWs, highlighting the urgent need for support and intervention. The pandemic tsunami has left lasting consequences on the perception of workload, making it crucial to address these issues. The initial disorientation following the onset of the disease immediately gave way to a sense of belonging to the values specific to the care professions. The succession of pandemic waves has generated worries and more significant stress, further emphasizing the need for support. However, at the end of the pandemic crisis, high burnout remains associated with satisfaction with one's care work, which has not undergone significant changes compared to the pre-pandemic period (Franza et al. 2015). This underscores the importance of addressing these issues to ensure the well-being of HCWs.

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Contribution of individual authors:

Francesco Franza: design of the study, statistical design, interpretation of the data & writing manuscript, final version evaluation.

Nicoletta Fiorentino: sample collecting, literature research, writing manuscript.

Annalisa Soddu, Luigi Calabrese, Gabriele Speranza & Pietro Paladino: sample collecting, literature research, first draft, writing manuscript.

Barbara Solomita: design of the study, sample collecting, literature research, statistical design, interpretation of the dana.

Emilia Coppola, Nando Tucci, Giovanna Pisano & Giuseppe Rosato: sample collecting, first draft.

All authors approval of the final version.

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Correspondence:
Francesco Franza, MD, Psychiatrist, Psychoterapist
Rehabilitation Psychiatric Center "Villa dei Pini"
83100 Avellino, Italy
E-mail: franza.francesco@virgilio.it; Web: neamente.com