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THE EMOTIONAL IMPACT OF THE OPERATOR IN THE CARE OF PATIENTS WITH MENTAL DISORDERS DURING THE PANDEMIC: MEASURE OF INTERVENTIONS ON COMPASSION FATIGUE AND BURN-OUT

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SUMMARY

Background: *The continuation of the health emergency due to the management of COVID-19 is having a profound effect on all aspects of society, including mental health and physical health.*

This observational study examined practitioners of psychiatric rehabilitation and therapeutic communities, focusing on the emotional aspects of patient care, in particular the fatigue of compassion, empathy and lack of hope, aspects that could be directly linked to the burnout of health professionals, as found in other similar studies.

Method*: In this study, self-administered scale data was collected in 87 healthcare professionals recruited from 3 different psychiatric rehabilitation communities. In particular, we assessed the fatigue of compassion, vicarious trauma, burnout and hope (hopeless), empathy and depressive symptoms in the two months of May and June 2021.*

Results: *The results obtained after the administration of the following rating scales, ProQOL, BHS, SAVE-9, BDI-II and BEES, showed an overall increase in scores in all professional figures, a significant fatigue of compassion, while the percentage burnout is not present in several groups. The presence of high levels of hope, satisfaction of compassion is indicative of a moderate level of empathy in some professional figures; these high levels can protect workers from the risk of developing work-related stress and depressive symptoms.*

Conclusions*: The data obtained with this study are not similar to those of previous studies, although they may indicate the importance of factors such as hope, empathy in the care of the patient with psychic disorders in rehabilitation communities, underlining the need for interventions aimed at the emotional management of the care relationship as a tool to improve care and prevent burnout even during times of high stress, such as managing a pandemic.*

Key words: *compassion fatigue - burnout - empathy - hopelessness - health workers*

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INTRODUCTION

Providing assistance and support to people with complex disabling organic and psychological pathologies can increase the burden of work stress. The current health emergency due to the Coronavirus pandemic can aggravate and increase the exposure of health workers. These often report a wide range of psychological needs, including trauma, and out-of-control emotional reactions. Continued exposure to these periods of health crisis can lead to increased anxiety and increased responses to stress, which can lead to negative effects on psychophysical well-being, incorrect behavior and seeking help that can overload health facilities and burden on available resources (Garfin et al. 2020). The impact of work stress on staff quality of life can be assessed in terms of *burnout* (BO), *compassion fatigue* (CF) and, in positive terms, *compassion satisfaction* (CS). In a previous research (Franza et al. 2020) carried out in the time of Covid-19 outbreak, in the group of social health workers, compassion fatigue and burnout are superior to other previous data in mental health workers, confirming that in this historically unexpected period, health workers are subjected to higher levels of stress, reaching high percentages of workers involved. Furthermore, it was confirmed that the hopelessness can be an important indicator for implementing psychological and pharmacological intervention strategies.

COMPASSION FATIGUE AND BURN-OUT

A strong critical element in the assistance of people with a diagnosis of serious, disabling, progressive, acute or chronic organic disease is represented by the "fatigue of compassion" (CF), which can be defined as "the reduced capacity of the caregiver in being empathic or in "handling the client's suffering" and is "the natural behavioral and emotional consequence deriving from being aware of a traumatic event experienced or suffered by the person being assisted" (Figley 1995,

2002). Compassion fatigue is a phenomenon often associated with the "cost, emotional burden of care", and is represented "by a state of excessive tension and worry caused by the appearance of intrusive and paralyzing thoughts and images, by anxiety, hypervigilance, painful experience of past events and irritability" (Figley 1995, 2002, Wright 2004). The key elements in this model include empathic ability, empathic response and residual compassion stress.

More famous and widely used is the concept of the phenomenon of burnout. Compassion fatigue and burnout differ, however, in several respects. Burnout, in fact, is not directly associated with the exposure of a stressful traumatic event. Every worker can experience stress in different work environments (for example, restaurants, shops, companies and institutions) and is not directly associated with traumatic exposure. The development of burnout can be gradual and is typically due to multifactorial situations, while the development of compassion fatigue is faster and can be caused by a single traumatic event (Rossi et al. 2012). Boscarino (2008) suggested that secondary trauma and occupational burnout are distinct phenomena of compassion fatigue and that both syndromes are associated with trauma patients.

There are numerous studies that agree on the evidence that burnout is very high in health care figures (Veyssier-Belot et al. 2015, Shanafelt et al. 2015).

BURNOUT AND HOPELESSNESS

Closely connected to the management of work stress is the concept of "hope", which can be described as an emotion, an experience, a need, a characteristic, an emotional state, or as a dynamic process with affective, functional, contextual, temporal and relational dimensions (Tutton et al. 2009, Gelling 1999). Hope is a process of anticipation that involves the interaction of thought, action, feeling and relating. Hope is a major coping strategy and is a resource that affects people's ability to interact with stress in life-threatening situations. It is a vital force in adaptation and has been associated with a high quality of life. Hope in health workers is one of the main psychological resources that influence people's ability to cope with stress in daily and work life (Jones-Schenk 2020). The meaning of hope is often known and measured as a consequence of its absence (Hopelessness). The absence of hope as a psychological construct is of considerable psychopathological importance in various psychiatric disorders. Its role in the onset of depression may represent a target for the study of occupational stress in work groups (Kliem et al. 2018).

Hope, or its absence, is also one of the best studied aspects closely linked to empathy and compassion.

EMPATHY AND COMPASSION

The role, value and evolutionary roots of empathy have been the subject of discussion and a lively contradiction since the beginning of the diffusion of the Darwinian theory of evolution. The role of altruism as a promoter of empathy has already been clarified and deepened, often studied as a pervasive entity of this phenomenon (Marsh et al. 2014). In light of the most recent neuroscientific discoveries on the neuronal mechanisms of empathy and the role of "mirror neurons", it can be explained what Darwin hypothesized to be the automatic "empathic" experience of the witness of the emotional and painful experiences of the other, being a victim of a stressful event, with the ability to enter into the suffering of the other. Only in this way can take place the empathic response and compassion towards the other, leading the witness of the other / stressed to act to alleviate not so much the suffering of the other, but rather his own suffering, leading some authors to an extreme definition: the "invention" of empathy / altruism / compassion served to bring a selfish advantage to the witness, as he is no longer suffering as a spectator: "I no longer suffer only if I help the other".

Empathic / compassionate development is therefore supported by neuronal and psychological networks that neuroscience is beginning to discover and which influence the "drive" of individuals to help people. Closely related to the concept of empathy / compassion is that of hope, which is more relevant than ever in this pandemic period. As with the studies on hope in groups of specific populations, in which its absence (hopelessness) is sought for a better definition and a more effective nosological classification, in the same way many researchers have studied compassion, investigating its absence in groups specific to pathologies. The first studies that tried to assess and identify the nature of compassion were carried out by Hare's group in so-called psychopathies. The approach to research in this pathological area has identified the absence of remorse and compassion as the starting points for analyzing behavioral disorders. The studies by Hare (2017) and by the Marsh group (2016) that have indicated the way for the development of research in this sector. The perception of the stress of the other, therefore, can push people towards a behavior of help and compassion. When expressions of fear are vivid, they acquire a meaning of greater urgency than expressions of sadness. These expressions mimic requests for infant help and therefore push adult individuals to act in defense of the other (Hynnikin et al. 2020, Marsh et al. 2005). Simmons (1991) stated that empathy has developed as an evolutionary mechanism that pushes caregivers to identify the needs of stressed children and that the same response occurs towards the needs of others, manifesting itself in the caregiver's desire to help "as

much as possible" frail people. In this context, the first studies on palliative care took place. Helping the other, in fact, is the main core of palliative care which, however, has suffered a strong jolt and a period of crisis in this pandemic phase.

OBJECTIVE

The objective of this observational study is to evaluate the impact in the second phase of the epidemic on health workers in psychiatric rehabilitation communities, considering in particular the risk of burnout, anxious and depressive symptoms, through the measurement of emotional variables associated with the treatment of the psychiatric patient, especially Compassion Fatigue, satisfaction in compassion, hopelessness and empathy.

METHODS

We have recruited from May to June 2021, eighty-seven health care workers (HCWs) in three psychiatric rehabilitation center: "Città Solidale" Social Cooperative, Latiano (BR), Italy; "Don Tonino Bello"- Assoc. M.I.T.A.G., Brindisi, Italy and Psychiatric Rehabilitation Centre "Villa dei Pini", Avellino, Italy. In a natural observational study, we assessed the effects of the COVID pandemic on the psychological health of HCWs (61 females, average age 40.033, *SD±10.57* years; 26 men; average age 45.23, *SD±12,47* years). All participants were asked to sign informed consent to participate. The HCWs group consisted of 8 physicians (with 4 psychiatrists), 8 psychologists; 17 nurses; 5 psychiatric rehabilitation technicians (TeRP); 19 social workers; 21 social heatlhcare workers (SHWs). All staff in this study, to research the levels of stress, fatigue of compassion and hope (or hopelessness) and depressive symptoms, asked HCWs to complete anonymously the following scales: Professional Quality of Life (ProQOL) (Stamm 2009); Beck Hopelessness Scale (BHS) (Beck & Steer 1993); Stress and Anxiety to Viral Epidemic - 9 items (SAVE-9) for Healthcare workers, Italian version (Tavormina et al. 2020); Beck Depression Inventory (BDI-II) (Beck et al. 2018, Italian edition); Balanced Emotional Empathy Scale (BEES: Mehrabian 2018).

Evaluation scales used

The *ProQOL* is an evaluation tools to measure the negative and positive effects of helping others who experience suffering and trauma. The following factors can be assessed with this scale: compassion satisfaction and compassion fatigue (burnout and secondary trauma). Compassion satisfaction is about the pleasure deriving from being able to do the work well.

The BHS is a rating scales composed of 20 items that measure the severity of the hopelessness, the negative attitudes in the future, in the short and long term.

The SAVE-9 (Stress and Anxiety to Viral Epidemics-9 items) scale has been developed as a tool for assessing work anxiety and stress in response to the viral epidemic of health professionals working to prevent the spread of the virus and to treat infected people.

For the evaluation of a possible depressive symptomatology in a group of analyzed health workers we used the Beck Depression Inventory (BDI-II), created by Aaron T. Beck (Beck et al. 1996). It is a 21-question multiple-choice self-report inventory, one of the most widely used psychometric tests for measuring the severity of depression.

The BEES measures the emotional component of empathy, which indicates the tendency of a person to experience vicariously the emotional experiences of others. It is made up of 30 items, which produce a total emotional empathy score. The statistical analyzes differentiated 5 different aspects, or facets. The individual facets allow to define and to interpret the emotional empathy score.

Statistical significance was ascertained with EZAnalyze 3.1 Excel Platform. Demographic variables and evaluation questions were subjected to descriptive analysis.

RESULTS

Overall, 87 participants completed the onetime scales and assessments. In tables 1, 2, 3, 4 the data of scales are shown.

Professional Quality of Life (ProQOL)

The results obtained with the ProQOL are similar to those of the previous scales, but they show a lower percentage of Compassion Fatigue and Secondary Trauma compared to the data produced by previous study (Franza et al. 2015, 2020). The results of the Compassion Satisfaction (CS) subscale are interesting. Low CS levels were found in 59.82% of nurses and 50% of physicians. While high levels of CS were found in 57.14% of the SHWs and in 29.41% of nurses. The 60% low CS score in TeRPs is not significant for the small number of participants. The results of the burnout subscale are significant. Unlike previous studies, the most significant data that emerges from the burnout subscale is the low level of burnout found in all subgroups. High levels of burnout were found in 11.76% of participants in the group of nurses. Different results were observed with the Secondary Trauma subscale. In fact, high levels of Compassion Fatigue were found in 85.71% of nurses, in 44.5% of educators and in 28.57% of SHWs. Low levels of CF were shown in social workers (78.95%), in educators (55.5%), and psychologists (62.5%).

Table 1. Data ProQOL in HCWs

	Mean	Sd±	Level CS Percentage (%)		
			Low	Moderate	High
Compassion Satisfaction					
Educators	48.47	3.75	0	82.21	15.79
Health workers	37.44	8.13	11.10	66.60	22.20
Nurses	24.29	21.39	59.82	11.76	29.41
Physicians	22.75	13.44	50.00	37.50	12.50
Psychologists	42.23	4.91	0	42.86	57.14
Rehab psyc ther	40.38	3.70	0	75	25
Social workers	15.60	12.03	60	40	0
Burnout					
Educators	27.68	*5.14*	10.52	19.47	0
Health workers	23.67	*6.42*	22.20	77.70	0
Nurses	28.35	*14.96*	41.18	47.06	11.76
Physicians	27.13	*4.22*	12.50	87.50	0
Psychologists	25.55	*6.16*	33.33	66.66	0
Rehab psyc ther	26.75	*7.27*	*12.50*	*87.50*	*0*
Social workers	25.80	*4.76*	*0*	*100*	*0*
Secondary Trauma					
Educators	2.68	11.08	78.95	0	10.52
Health workers	29.67	15.91	55.50	0	44.50
Nurses	34.45	12.25	17.65	47.06	85.71
Physicians	33.00	9.04	12.50	75.00	12.50
Psychologists	31.68	11.09	23.81	47.62	28.57
Rehab psyc ther	25.58	13.56	62.50	12.50	25
Social workers	25.60	12.01	40	20	20

Table 2. Data BHS. Mean and percentage in each HCWs group

	BHS		Severity (%)			
	Mean	Sd±	Absence	Low	Moderate	High
Educators	2.56	1.54		26.31		
Health workers	3.70	1.95			44	
Nurses	6.47	4.90		29.41	23.53	11.76
Physicians	5.25	3.73		37.50	25	12.50
Psychologists	2.68	1.49	76.19	23.81		
Rehab psyc ther	5.50	6.30	50	25		25
Social workers	3.20	3.42	60	40		
TOTAL	3.74	3.62				

Beck Hopelessness Scale (BHS)

In our study the highest scores were in the group of nurses, physicians and psychologists (respectively, in 64.70% vs 75.00% vs 50%). However, the low number of psychologists and technicians should be highlighted with not statistically significant results. More significant are the results obtained in the physician group.

Stress and Anxiety to Viral Epidemic - 9 items (SAVE-9) for Healthcare workers

The SAVE-9 (Stress and Anxiety to Viral Epidemics - 9 items) scale is a tool for assessing work anxiety and stress in response to the COVID-19 pandemic of health professionals working to prevent the spread of the virus and to treat infected people. The scale evaluates the anxiety and stress levels in worker. The data show a mean total score of 10.78 (*SD±6.88*), with high levels above the breakpoint in 14.94%.

Table 3. Data SAVE-9 results for HCWs

	SAVE-9	
	Mean	Sd±
Educators	9.22	5.80
Health workers	10.80	6.08
Nurses	10.68	7.34
Physicians	12.38	7.76
Psychologists	11.00	7.05
Rehab psyc ther	6.20	4.15
Social workers	12.26	7.41
TOTAL	10.78	6.88

Table 4. Data Beck Depression Inventory (BDI-II) in each HCWs group

	BDI-II		Severity (%)			
	Mean	Sd±	Absence	Low	Moderate	High
Educators	7.10	8.79	100	-	-	-
Health workers	5.42	6.84		23.80		4.76
Nurses	8.75	10.16	70.58	17.64	-	11.76
Physicians	10.25	8.28		25.00	-	-
Psychologists	5.00	8.12		12.50	-	-
Rehab psyc ther	8.50	8.62		-	40.00	-
Social workers	5.11	6.64	78.95	5.26	5.26	-
TOTAL	6.73	7.97				

Beck Depression Inventory (BDI-II)

The results obtained with the BDI-II indicate the presence of depressive symptoms of different severity in each group evaluated. It should be emphasized the presence of only 3 overall cases of severe symptoms, two in the group of nurses and one in the group of health workers.

The importance of a diagnostic and therapeutic study in this group of workers should be emphasized.

Balanced Emotional Empathy Scale (BEES)

On the BEES scale the mean total score (Factor T) was 50.62 *(±SD 11.04*), indicative of a moderate level. The moderate level was observed in all subgroups of HCWs (see table 5). In HCWs subgroups the highest scores were in the groups of nurses and therapists (respectively, 23.52% and 20.00%). On the other hand, the results in the facet patterns are interesting. In particular, high total scores were found in facet 1 (*impermeability to contagion from internal emotional states*) and in facet 5 (tendency *not to get involved in the conditions of fragile subjects*) (respectively, 66.00 and 68.38). Facet 5 data should be underlined because of a high score in nurses (mean score: 66.12*±10.35*: 41.17%), and in social workers (mean score: 61.84±12.72: 36.84%).

Table 5. Data BEES. Mean and percentage in each HCWs group

	BEES (factor T)	
	Mean	Sd±
Educators	46.40	9.66
Health workers	51.74	6.84
Nurses	54.55	10.16
Physicians	44.00	19.60
Psychologists	48.50	8.12
Rehab psyc ther	56.00	11.02
Social workers	46.67	11.57

CONCLUSIONS

In this observational study, the focus was on the emotional aspects of care, in particular the fatigue of compassion, empathy and lack of hope, aspects that appear to be directly linked to the burnout of health workers in this period of pandemic. The absence of depressive and anxious aspects in health workers engaged in psychiatric rehabilitation communities seems to be linked to the hope that the emergency will end. The presence of hope is therefore confirmed to be an important indicator of psychological well-being, even in social and health workers. The presence of levels of compassion fatigue and stress lower than in previous surveys can be traced back to the different period of the pandemic, in which both healthcare professionals and patients expect a progressive reduction of restrictive measures also because everyone is vaccinated and in any case can affirm that the operators have not had to face dramatic health situations within the communities which have instead proved to be a protected place from contagions, despite the necessary contacts with the outside world. From the study arises the need to carry out periodic evaluations of the emotional variables examined in order to observe and keep under control in the operators aspects directly linked to the care of patients, with the idea that, whatever category they belong, (social workers, educators, nurses, doctors, psychologists) in addition to adequate technical knowledge, training is necessary on one's relational and emotional dimension in the relationship with the patient, also through the use of intervention techniques aimed at these aspects, such as the Balint Groups.

The experience lived in this pandemic period can therefore provide the opportunity to implement a series of alternative strategies, aimed at improving the well-being of workers, corporate welfare and, therefore, better rehabilitation and care of people suffering from mental health diseases in psychiatric communities.

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Contribution of individual authors:

Antonella Vacca: design of the study, conception, preparation and writing of the manuscript;

Maria Vincenza Minò: research;

Ivana Colizzi: research and to data acquisition;

Barbara Solomita: design of the study, contribution to bibliographic research;

Roberto Longo: manuscript revision and translation;

Francesco Franza: design of the study, data analysis, contribution to bibliographic research;

Giuseppe Tavormina: research protocol and to the manuscript revision.

References

1. *Adams RE, Boscarino JA, Figley CR: Compassion fatigue and psychological distress among social workers: a validation study. Am J Orthopsychiatry 2006; 76:103-8*
2. *Beck AT, Steer RA, Ball R, Ranieri W: Comparison of Beck Depression Inventories -IA and -II in psychiatric outpatients. J Personal Assess 1996; 67:588–97*
3. *Beck AT, Steer RA: Beck hopelessness scale (BHS) manual. Pearson: San Antonio, 1993. Traduzione in italiano seconda edizione Giunti Psychometrics, 2019*
4. *Boscarino JA, Figley CR, Adams RE: Compassion fatigue following the September 11 terrorist attacks: a study of secondary trauma among New York social workers. International Journal of Emergency Mental Health 2004; 6:57–66*
5. *Darwin C: L'origine dell'uomo e la selezione sessuale. Newton Compton Editori; Unabridged edizione, 2010. Ed originale. The Descent of Man, and Selection in Relation to Sex. Two volumes, Murray, 1871*
6. *Figley CR: Compassion Fatigue: Coping with Secondary Traumatic Stress Disorder in Those who Treat the Traumatized. Psychology Press, 1995*
7. *Figley CR: Compassion fatigue: psychotherapists' chronic lack of self care. J Clin Psychol 2002; 58:1433-41*
8. *Franza F, Basta R, Pellegrino F, Solomita B, Fasano V: The Role of Fatigue of Compassion, Burnout and Hopelessness in Heathcare: Experience in the time of COVID-19 Outbreak. Psychiatr Danub 2020; 32(Suppl 1):S10-14*
9. *Franza F, Del Buono G, Pellegrino F: Psychiatric caregiver stress: clinical implications of compassion fatigue. Psychiatr Danub 2015; 27(Suppl 1):S321-327*
10. *Garfin DR, Silver RC, Holman EA: The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. Health Psychol 2020*
11. *Gelling L: The role of hope for relatives of critically ill patients: a review of the literature. Nurs Stand 1999; 14:33-8*
12. *Hare RD: A Person-Centered Approach to Research on the Nature and Meaning of Psychopathy-Brain Relations. Biol Psychiatry Cogn Neurosci Neuroimaging 2017; 2:111-112*
13. *Hunnikin LM, Wells AE, Ash DP, van Goozen SHM: The nature and extent of emotion recognition and empathy impairments in children showing disruptive behaviour referred into a crime prevention programme. Eur Child Adolesc Psychiatry 2020; 29:363-371*
14. *Jones-Schenk J: Hope as a Generative Force: Lifting Our Gaze to the Future. J Contin Educ Nurs 2020; 51:203-204*
15. *Kliem S, Lohmann A, Mößle T, Brähler E: Psychometric properties and measurement invariance of the Beck hopelessness scale (BHS): results from a German representative population sample. BMC Psychiatry 2018; 18:110*
16. *Marsh AA: Neural, cognitive, and evolutionary foundations of human altruism. Wiley Interdiscip Rev Cogn Sci 2016; 7:59-71*
17. *Marsh AA, Adams RB Jr, Kleck RE: Why do fear and anger look the way they do? Form and social function in facial expressions. Pers Soc Psychol Bull 2005; 31:73-86*
18. *Mehrabian A: BEES. Balanced Emotional Empathy. Manuale seconda edizione (a cura di Meneghini AM, Sartori R, Cunico L. Giunti Psychometric, Firenze, 2018*
19. *Minò MV: Psychopathy in Adolescence: Causes, Traits and Risk Behaviours. Psychiatr Danub 2019; 31(Suppl 3):S443-446*
20. *Rossi A, et al.: Burnout, affaticamento della compassione e soddisfazione della compassione tra il personale nei servizi di salute mentale basati sulla comunità, Psichiatria Res 2012; 200:933-8*
21. *Shanafelt TD, Hasan O, Dyrbye LN, Sinsky C, Satele D, Sloan J, West CP: Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. Mayo Clin Proc 2015; 90:1600-13*
22. *Stamm H: Professional Quality of Life: Compassion Satisfaction and Fatigue Version 5 (ProQOL). 2009 /www.isu.edu/~bhstamm or www.proqol.org*
23. *Tavormina G, Tavormina MGM, Franza F et al.: A New Rating Scale (SAVE-9) to Demonstrate the Stress and Anxiety in the Healthcare Workers During the COVID-19 Viral Epidemic. Psychiatr Danub 2020; 32(Suppl 1):S5-9*
24. *Tutton E, Seers K, Langstaff D: An exploration of hope as a concept for nursing. Orthop Nurs 2009; 13:119–27*
25. *Veyssier-Belot C: Burnout syndrome among physicians. Rev Med Interne 2015; 36:233-6*
26. *Verhaeghe ST, van Zuuren FJ, Defloor T, Duijnstee MS, Grypdonck MH: The process and the meaning of hope for family members of traumatic coma patients in intensive care. Qual Health Res 2007; 17:730-43*
27. *Wright B: Compassion fatigue: how to avoid it. Palliat Med 2004; 18:3-4*

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