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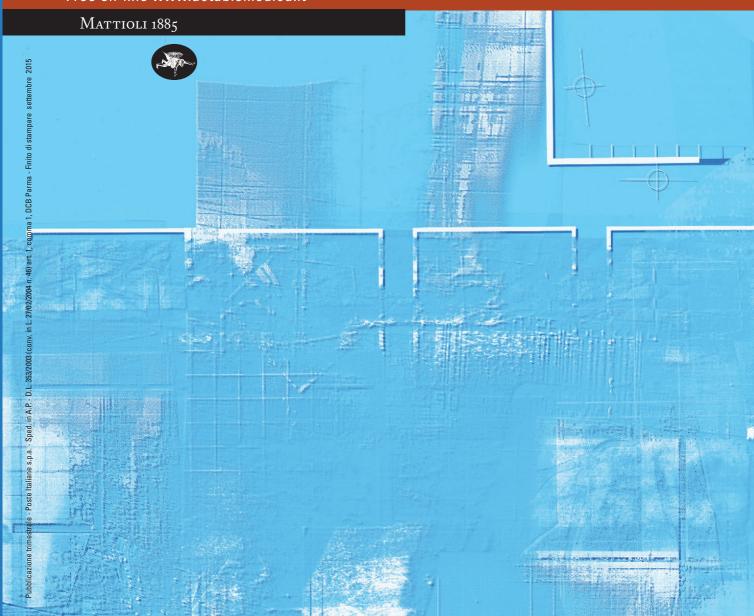
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Empathy and burnout: an analytic cross-sectional study among nurses and nursing students

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Abstract. *Background and aim:* Empathy is an essential element of good nursing care associated with increased patient satisfaction. Burnout represents chronic occupational stress which diminishes interest in work and reduces patient safety and satisfaction. The purpose of this study was to evaluate the correlation between empathy and burnout in nursing students and nurses. *Method:* This cross-sectional research was conducted in a sample of 298 nurses and 115 nursing students. Socio-demographic and career information was collected. Balanced Emotional Empathy Scale (BEES) and Maslach Burnout Inventory (MBI) were administered. Data were statistically analysed. *Results:* 63% of our sample answered questionnaires (54% of nurses and 84% of students). The BEES global mean score was slightly inferior to empathy cut-off of 32. In the student group, two BEES dimension scores were statistically significantly higher than nurses (*p*=0.011 and *p*=0.007 respectively, t-test). Empathy was negatively related to age (*p*=0.001, ANOVA). Emotional exhaustion (EE) scores of MBI reported statistically significantly lower levels for students (*p*<0.0001, t-test). EE was negatively related to BEES mean total score in students (r=-0.307, *p*<0.002) and nurses (r=-0.245, *p*<0.002), personal accomplishment of MBI presented positive correlation with BEES mean total scores in students (r=0.319, *p*<0.002) and nurses (r=0.266, *p*<0.001, Pearson's correlation). Female students showed superior empathy capacity in comparison to male students in all 5 dimensions of BEES (*p*<0.001), whereas females nurses in only one dimension (*p*<0.001). *Conclusions:* Our data suggest empathy declines with age and career. High levels of empathy can be protective against burnout development, which, when presents, reduces empathy.

Key words: analytic cross-sectional study, empathy, burnout, nursing students, nurses

Introduction

Empathy

The term empathy was coined by Robert Vischer at the end of 1800 and the philosophers Wundt and Lipps used it to indicate the projection of human feelings on to the natural world. Successively, this concept was applied to psychology by Freud and other psychoanalysts. In particular, Kohut called empathy "vicarious introspection", to indicate that the therapeutic relationship is based on these two modalities: introspection and empathy (1). Edith Stein, a German phenomenologist, distinguished from sympathy and defined empathy as the capacity to promote self-awareness and positive regard for others (2). Among phenomenologists, Jaspers claimed the epistemological role of empathy in psychopathological diagnosis and observed that it permits to understand the patient through a direct access to his/her abnormal mental experiences (3).

Empathy is an essential element of good quality of nursing care and is associated with increased patient

satisfaction and well-being, adherence to treatment and fewer malpractice complaints (4-9). The empathy capacity of professionals can influence the course and outcome of illness (10-12). Clinical empathy involves the ability to understand the patient's situation, his/her perspective and feelings (and their attached meanings) (13-17). Empathy capacity is a fundamental and essential instrument in all therapeutic relationships, allowing the professional to meet the needs of patients (6,18-22). In order to develop empathy, professionals have to maintain a correct distance from the patient, avoiding excessive involvement in his/her life and the detachment from patients' problems (23,24). According to most authors, nurses show low levels of empathic tendency (10), although there is a great difference among nurses in various settings (8) and nursing students (25,26). This data could reflect the complexity of measuring empathy, which remains "a subjective, multifaceted and even intangible component of caring", as suggested by some authors (8). The ability to empathize can be influenced by many factors: gender, age, work training and experiences (27). Many studies evidenced that women show superior empathic tendency in comparison to men (28-30). In a study, conducted among health profession students in Philadelphia, females showed higher levels of empathy in comparison to both male fellow students and senior professionals (31). An Italian longitudinal study, which assessed the efficacy of a specific training course for improving empathy skills in nursing students, highlighted that training was more effective for female students as compared to males (32). Another Italian study evidenced that the impact of gender on empathy tendency increased during nursing training, as demonstrated by higher BEES scale scores of female students in comparison to males (26). The different empathy capacity between males and females is thought to be due to many factors. Some researchers view empathy as a feminine trait and attribute this difference to a result of evolution (33). Other authors believe that this result could also be conditioned by 'sex-role stereotypes' answers of participants or that there may be biases introduced by social desirability (34). On the other hand, neurobiological substrates of empathy show significant quantitative gender differences in the basic networks involved in affective and cognitive forms of empathy,

as well as a qualitative divergence between the sexes in the integration of emotional information in the decision-making processes (35). In accordance with some authors, who observed that older people manifested lower levels of empathy in comparison to younger ones, age could be a variable negatively related to empathy (36). In this regard, many studies (37) identified higher empathic scores in young nurses, newly registered but trained longer. Similar results were obtained in another study putting in evidence that empathetic tendency scores of newly registered nurses were higher than other groups (20). A significant decline in empathetic tendency during the course of study was registered in nursing students (38-40). Whilst this decline may be partly due to a 'settling in' phenomenon with a change from idealism to realism, students may also be displaying an adaptive response to new responsibilities and an increasing workload (40). Ward and colleagues (41) found a more pronounced decline in empathy among students exposed to clinical encounters and real patients, compared with nursing students in their first year of study, who spent most of their time in the laboratory setting (30). Students' facing emotional care burdens such as fear, confusion, helplessness and loss of patients during undergraduate years may demonstrate avoidance and a decrease in empathetic tendency in order to protect themselves from pain and anxiety (20). Several authors described "factors that impeded nurses' empathic behavior, which included lack of time, lack of support from unsympathetic colleagues, personality style and anxiety toward patients" (29,41-43). Increasing workload, time pressures, competitiveness, technology-driven therapeutics and increased cynicism about caring process are all factors believed to contribute to the decline in empathy (44).

Empathy is commonly understood as a critical factor in providing effective support, but it has also been considered a primary path of vulnerability to developing stress disorders secondary to the profession, such as compassion fatigue and professional emotional exhaustion (45-47).

Burnout

Burnout syndrome is a significant problem in modern working environments and its prevalence has

increased substantially over the past decade (48). The term burnout was coined by Herbert Freudenberger to define a state of physical, emotional and mental exhaustion due to long-term involvement in work situations that are emotionally demanding (49). Burnout syndrome occurs when the use of coping strategies is ineffective to overcome stress leading to a chronic condition of physical and psychological vulnerability (50-54). Burnout has been interpreted as chronic occupational stress which diminishes interest in work and causes clinical symptoms similar to depression. One of the most widely used instrument for assessing burnout is the Maslach Burnout Inventory, which was developed by Christina Maslach and Susan Jackson. These social psychologists identified a three-dimensional syndrome made up of 'exhaustion', 'depersonalization' and 'personal accomplishment'. Emotional exhaustion refers to the physical and emotional overloads that result from interactions with co-workers and patients; depersonalization (also known as 'cynicism') is the development of cynical attitudes and responses toward fellow workers and the beneficiaries of the services that one provides; reduced 'personal accomplishment' (also defined 'inefficacy') refers to the tendency of nurses to adopt a negative self-concept as a consequence of unrewarding situations. Overwork and high stress levels can cause burnout in workers (55), with negative outcomes for both individuals and organizations. Individuals suffering from burnout usually manifest psychological distress, somatic complaints, alcohol and drug abuse, psychosomatic problems (weakness and insomnia), emotional problems (anxiety and depression), attitude problems (hostility, apathy and distrust) and behavioral problems (aggressiveness, irritability and isolation), among other problems (56-58). For health organizations, burnout can be costly, leading to increased employee tardiness, absenteeism, turnover, decreased performance and difficulty in recruiting and retaining staff (59-62). Individuals' personalities are a strong predictor of the level of job burnout they experience (63-65). Organizational stressors, such as work overload, can lead to different levels of burnout depending on the personality traits of employees (48,66,67). Socio-demographic variables related to burnout syndrome have been extensively studied though the results obtained have been contradictory.

Some studies concluded that burnout decreased with age (68,69), whereas others reported the opposite (70-72). The high levels of burnout in younger workers could be secondary to less professional experience and more elevated stress related to work (73). According to the meta-analysis of Purvanova (74), there are important gender-specific differences in burnout levels: women experience emotional exhaustion more frequently whereas men are more prone to depersonalization. In nurses, burnout has been associated with reduced patient safety and satisfaction and other measures of deficient quality of care (60,75).

Among nursing students, burnout, which has been found to be related to academic performance, can foster high drop-out rates and influence future quality of care in nurses' professional lives (76). Undertaking a nursing course leads to increased level of stress (77), burnout and psychological morbidity, which are largely related to individual personality and coping traits (54). The literature identifies three main groups of stress causes: academic sources of stress, clinical sources of stress and personal/social sources of stress (78). The characteristics of burnout syndrome in nursing students are feelings of exhaustion, cynicism, which involves a detached and ineffective professional behavior, and, at the same time, the perception of themselves as incompetent (76). At present, both nationally and internationally, research on burnout in nursing students is scarce (79).

Empathy and burnout

Empathy has been related to an important construct in the field of health: professional burnout, but previous studies on this relationship between empathy and burnout have found contradictory results. In particular, burnout severity is related to both increases and decreases in dispositional empathy scores (14,15). People with a higher score on dimensions such as empathic concern tend to greater development of burnout syndrome, especially in its depersonalization component (29,80-83). Otherwise, nurses, constantly exposed to emotional situations related to patients' suffering (84), develop coping strategies in order to protect themselves from an excessive emotive involvement, with the risk of reducing empathy capacity. Therefore, frequent

exposure to emotionally demanding situations may put nurses at risk of burnout and professional distress, resulting in a low sense of accomplishment and severe emotional exhaustion (67,85,86). According to Zapf and colleagues, the emotional nurses investment may be seen as a principle factor predicting burnout among common job stressors (87).

Most studies have observed an inverse relationship between self-report burnout and empathy, whereas empathy was positively correlated with personal accomplishment scores in medical students and physicians (88-90). In the nursing profession, some studies have observed that there is a statistically significant negative correlation between some dimensions of burnout and empathy (91). In particular, Wilczek-Ru yczka suggested that developing empathy prevents professional burnout since she found that the level of empathy was negatively correlated with burnout (92). Tei et al. (86), have evidenced in 25 nurses, by means of fMRI, that severe burnout syndrome was associated with 'reduced empathy related to brain activity'. On the contrary, another study, which analyzed the relationship between empathy and burnout in 3 different helping professions, did not find any statistically significant correlation between these two constructs (93). These contradictory data concerning the correlation between burnout and empathy are explained by two opposite theories: the conventional theory, 'compassion fatigue theory' (16), which suggests that burnout is related to excessive empathy; the alternative theory, 'emotional dissonance theory' (17), which hypothesizes that burnout can be associated to reduced emotional regulation.

Aims

- To compare the levels of empathy and burnout between nursing students and nurses.
- To evaluate the correlation between the levels of empathy and burnout in both groups.

Methods

This analytic cross-sectional study was conducted in 2015 in Northern Italy.

Participants

The sample was composed of a total of 413 individuals: 298 nurses (283 employed in 17 Medical and Surgical hospital wards in a General Hospital and 15 teachers in Nursing Degree Course); 115 students attending the last year of their Nursing Degree Course.

Measures

Three research instruments were used:
1. a questionnaire concerning socio-demographic (age, gender) and career (years of employment) information;
2. the Italian version of the Balanced Emotional Empathy Scale (BEES) (94), which assesses empathy levels, in terms of susceptibility to becoming vicariously involved in others' emotional feelings and the tendency to develop positive interpersonal relationships (32). BEES includes 30 items and the participants express their level of agreement/disagreement on a seven-point Likert scale, with negative and positive answers, designed to avoid social desirability in the responses (95). The total BEES score indicates high levels of empathy if it is greater than the mean value of 32 ± 18 (SD). The Italian version of the BEES validated five dimensions concerning the following areas of emotional empathy (32): 'Impermeability to the emotional feelings of others' (D1), 'Susceptibility to the emotional feelings of others' (D2), 'Emotional spread responsiveness' (D3), 'Susceptibility to emotional involvement with people nearby' (D4), 'Tendency to avoid emotional involvement with fragile people' (D5). At D1, D3 and D5, high scores indicate scarce capacity to empathize; on the contrary, at D2 and D4 low scores indicate good empathic tendency.
3. the Maslach Burnout Inventory (MBI) (96), which includes 22-items scored on a seven-point Likert scale ranging from 0 to 6 points, is the instrument most widely used by researchers (97). This instrument is formed by 3 sub-scales to evaluate the following domains of burnout:

'emotional exhaustion' (EE) (feeling unable to carry on), 'depersonalization' (D) (unfeeling and impersonal response towards recipients of one's service, care, treatment or instruction), and 'personal accomplishment' (PA) (satisfaction from the job). The BMI has also been used extensively in studies of both nurses (60,70,98,99) and nursing students (54,100). The minimum and maximum scores were ranged from 0 to 54 (cut-off: low<15, average 15–22, high>23) for EE, from 0 to 30 (cut-off: low<4, average 4–7, high>8) for D, and from 0 to 48 (cut-off: low>29, average 29–36, high<37) for PA.

Procedures

The research instruments were given to the participants of our sample in order to obtain self-report answers within 10 days. The anonymity and confidentiality of participants were assured and their decision to participate voluntarily in this study was respected. The study was authorized by the Director of Nursing Degree Course and by both Medical Director and Nurse Manager of the General Hospital.

Statistical Analyses

Descriptive statistics for the evaluated parameters were reported with summary tables. Continuous variables were summarized in tables displaying sample size, mean and standard deviation (SD) or median and quartiles; categorical variables were described in terms of absolute and percentage frequencies of the number of cases examined. The comparison of continuous variables between 2 groups was performed using the t-test, and between 3 or more groups by means of analysis

of variance (ANOVA). The comparison of categorical variables between groups was performed using the Chi2 test or the Fisher's exact test, when appropriate. All the reported statistical tests were two-sided, and we considered as significant a test with *p*-value <0.05.

The statistical analysis was performed by means of the software Stata (v10, College Station, TX 77845 USA) and R (v 3.0.1, 2013 The R Foundation for Statistical Computing).

Results

The individuals who agreed to participate in this study and fully answered the research instruments were 63% of our sample (n=259), represented by 162 nurses (54% of all nurses) and 97 students (84% of all students). Among nurse participants, females were 130 and males 32; among student participants, females were 76 and males 21 (the imbalance between females and males reflects the distribution of participants). The mean age of nurses was 39 ± 9 (SD) years, whereas the mean age of students was 22 ± 4 (SD) years. The years of employment of nurse participants were 14 years on average ± 10 (SD).

Empathy

The mean scores of total and 5-dimension BEES are reported in Table 1, divided into nurse and student scores. The 2 groups reported mean scores inferior to the expected cut-off value of 32. Students reported superior total BEES score in comparison to nurses. Among the 5 dimensions, only 'Impermeability to the emotional feelings of others' and 'Tendency to avoid emotional involvement with fragile people' presented a statistically significant difference between students

Table 1. Mean (± SD) scores of total and 5-dimension BEES: "*Impermeability to the emotional feelings of others*" (D1), "*Susceptibility to the emotional feelings of other*s" (D2), "*Emotional spread responsiveness*" (D3), "*Susceptibility to emotional involvement with people nearby*" (D4), "*Tendency to avoid emotional involvement with fragile people*" (D5).

	N	D1 M (SD)	D2 M (SD)	D3 M (SD)	D4 M (SD)	D5 M (SD)	Total BEES M (SD)
Students	97	-6.1 (6.3)	9.8 (4.4)	-1.8 (8.2)	9.0 (5.1)	-4.1 (4.0)	**28.2** (17.0)
Nurses	162	-4.0 (6.8)	9.0 (5.1)	-0.6 (7.3)	9.8 (5.6)	-5.5 (3.9)	**25.6** (17.3)
P–value		*0.011*	*0.202*	*0.211*	*0.264*	*0.007*	*0.227*

and nurses (p = 0.011 and p = 0.007 respectively, t-test).

Empathy was negatively related to the age of our sample. In particular, the scores of 'Impermeability to the emotional feelings of others' presented statistically significant differences according to the different age groups (p = 0.001, ANOVA; Table 2). We have to put in evidence that the youngest participants, who were represented by 80 students with an age ranged between 21 e 24 years, showed the highest scores of empathy.

Burnout

The mean levels of burnout (according to the MBI) for students and nurses are presented in Table 3.

Only the emotional exhaustion (EE) scores reported a statistically significant difference between the nurse and student groups (p < 0.0001, t-test), with lower levels for students. Similar results were obtained for the 3 cut-off levels (low, average, high) of the EE scores (p < 0.001, Chi2; Table 4). Both groups reported high scores in the depersonalization and average scores in the personal accomplishment.

Empathy and burnout

In the student group, the emotional exhaustion sub-scale of MBI was negatively related to the BEES mean total score (r = -0.307, p < 0.002, Pearson's correlation), as it was in the nurse group of our sample (r = -0.245, p < 0.002, Pearson's correlation). Both these

Table 2. The total and 5-dimension BEES mean scores divided into age groups

Age groups (years)	N	D1 M (SD)	D2 M (SD)	D3 M (SD)	D4 M (SD)	D5 M (SD)	Total BEES M (SD)
21-24§	80	-6.2 (6.1)	9.9 (4.5)	-2.2 (8.4)	9.4 (5.2)	-4.2 (3.8)	29.1 (16.3)
25-33*	61	-5.9 (6.2)	9.0 (6.2)	-1.0 (6.2)	9.5 (6.2)	-5.8 (6.2)	28.2 (6.2)
34-44*	55	-2.8 (6.5)	8.5 (6.5)	-0.3 (6.5)	9.6 (6.5)	-5.7 (6.5)	23.5 (6.5)
45-60*	46	-2.8 (7.3)	9.7 (7.3)	-0.2 (7.3)	10.3 (7.3)	-4.8 (7.3)	24.5 (7.3)
P-value		*0.001*	*0.344*	*0.319*	*0.721*	*0.157*	*0.129*

§ only students, * only nurses

Table 3. Mean (± SD) scores at the MBI 3 sub-scales of nursing students and nurses

	Emotional Exhaustion M (±SD)	Depersonalization M (±SD)	Personal Accomplishment M (±SD)
Students	11.6 (±8.1)	11.5 (±4.6)	31.5 (±5.2)
Nurses	16.7 (±9.9)	12.7 (±5.2)	31.5 (±6.9)
P-value	*<0.0001*	*0.064*	*0.990*

Table 4. Percentage scores (divided into low, average and high cut-off) at the MBI 3 sub-scales of nursing students and nurses

	Emotional Exhaustion Score (%)			Depersonalization Score (%)			Personal Accomplishment Score (%)		
	Low	Average	High	Low	Average	High	Low	Average	High
Students	74	18	8	1	30	69	28	60	12
Nurses	46	27	27	2	20	78	30	50	20
P-value	*<0.001*			*0.150*			*0.184*		

results showed that reduced emotional exhaustion is associated with high levels of empathy.

On the contrary, the personal accomplishment presented a positive correlation with the BEES mean total scores both in the student group (r = 0.319, *p* < 0.002, Pearson's correlation) and nurse group of our sample (r = 0.266, *p* < 0.001, Pearson's correlation), whereas the depersonalization sub-scale was not related in a statistically significant way to the BEES mean total scores.

The gender difference

The student BEES scores were statistically significantly different between females and males: female nursing students showed superior empathy capacity in comparison to male nursing students (*p* < 0.001, ANCOVA), as shown in Table 5. Otherwise, the male and female nurse BEES scores presented a statistically significant difference only at the dimension 'emotional spread responsiveness' (D3), with a superior empathic tendency for females (*p* < 0.001, ANCOVA) (Table 5). On the MBI, the male and female nursing student scores did not present any statistically significant differences, whereas, among nurses, the depersonalization scores of females was statistically significantly superior to males (*p* = 0.046, ANCOVA).

Discussion

Nurses and nursing students in our sample were similar for gender and age distribution, but they reported different results on both the evaluation scales for empathy and burnout. Students answered questionnaires more frequently than nurses, with a percentage (84%) similar (40) or superior to other studies (21,41), showing more interest in this topic as well as more empathetic tendency than nurses. In fact, on BEES, nursing students reported higher levels of empathy in comparison to nurses. In particular, they presented statistically significant superior outcomes at two dimensions (D1 and D5) of the scale concerning the empathy capacity to be involved in others' feeling, especially those of vulnerable people like children and the elderly, suggesting a strong initial motivation to enter this profession. Otherwise, students reported lower levels of burnout, especially in the emotional exhaustion dimension, in comparison to nurses, probably because they were early in their nursing career, as observed by other authors (101).

We highlight that both students and nurses presented moderate global empathy levels, with mean scores that were slightly inferior to the minimum range of BEES. This data is consistent with literature (21,26,31,40, 102), although it is difficult to compare

Table 5. Dispositional empathy and burnout scores according to gender, Covariance analysis (ANCOVA)

Scales	Students			Nurses		
	Females (n=76) M	Males (n=21) M	*P-value*	Females (n=130) M	Males (n=32) M	*P-value*
MASLACH						
EE	11.2	13.1	0.057	13.2	10.8	0.461
D	10.6	15.0	0.140	16.9	15.8	**0.046**
PA	31.5	31.4	0.772	31.9	29.8	0.056
BEES						
D1	-7.6	-0.8	**<0.001**	-4.1	-3.4	0.787
D2	10.3	8.0	**0.040**	9.1	8.6	0.915
D3	-3.4	4.0	**<0.001**	-1.6	3.5	**<0.001**
D4	9.7	6.8	**0.049**	10.0	8.8	0.211
D5	-4.6	-2.4	**0.034**	-5.5	-5.6	0.610
Total BEES	32.0	14.7	**<0.001**	26.3	22.5	0.471

with the results of other studies obtained through different evaluation instruments (8). Our data, in accordance with most studies (20,37,103), show that empathy and age were inversely related since empathic tendency decreased with the increase of age. Other authors observed that empathy decline can also be observed during the course of training in many health professions and inferred that it can represent a sort of defense mechanism to avoid human suffering (29,40,41,44). In line with this observation, we can hypothesize that empathy decline could represent a universal age-related defensive mechanism, which can be exacerbate by health-care settings (104).

Regarding gender difference, our results highlight that females presented higher empathy capacity than males. In particular, among nursing students, females showed higher empathic tendency in all dimensions of BEES, whereas among nurses, females showed statistically significantly higher scores only at the dimension of 'emotional spread responsiveness', in comparison with males. These results, in accordance with literature (21,26,29,30,31,40), indicate that females have more predisposition to empathize with others, probably due to greater emotional resonance to others' feelings and more sensitivity to interpersonal stimuli (32). Our data suggest that this empathetic predisposition tends to decrease with the increase of work activities and/or age, since our female nurses presented lower levels of empathy than our female students. Several authors described factors that impeded nurses' empathic behavior, such as lack of time, work shifts, conflicting relationship with patients, colleagues and care-givers, workload, time pressures, competitiveness (10,41,103). All these factors, which could favor the detached attitude or anxious behavior of nurses toward patients, are related to daily work activities and responsibilities (10,29,41,104). Our data confirm these observations since empathy decline was more frequently observed in senior nurses than in nursing students.

Concerning burnout, our results highlight that emotional exhaustion, an important indicator of burnout, was relatively low in all our sample, especially in students, in comparison to most other research on this topic (79,105,106). In particular, both our nurses and students presented lower scores of emotional exhaustion and higher levels of depersonalization in comparison to other non-Italian studies (48,105,107). According to the MBI scores reported, our sample could be detached or cynical towards patients, suggesting that high levels of depersonalization could represent for them a defense mechanism to avoid emotional engagement with patient and, eventually, nurses' emotional exhaustion.

We highlight that empathy and burnout were negatively related in both groups, students and nurses, since increased levels of emotional exhaustion were related to reduced empathy, attested by low BEES total scores. Conversely, high scores at personal accomplishment were positively related to BEES scores. This result suggests a direct relationship between these two psychological conditions, confirming that burnout is connoted by a decline of empathy, and, on the contrary, low capacity to empathize could make people more vulnerable to burnout. We have to put in evidence that in our sample, the more representative indicator of burnout was depersonalization, which can be interpreted as a form of empathy absence. These data overlap other results of the few nurses studies (86,92) and many other studies which investigated this correlation in physicians and medical students (88-90).

Conclusion

Our research highlights two important aspects of nursing care, empathy and burnout, which have been scarcely studied among nurses and undergraduate nursing students. We conclude that empathy can be a predisposition, more frequent in students and in females, which declines with the increase of both age and work activities, probably due to a psychological defense mechanism against human suffering. Similarly, our data on burnout indicate low level of emotional exhaustion in students, whereas depersonalization presented high levels in both nurses and students. Although this latter indicator was not statistically significantly related to empathy, it could be interpreted as a sort of defensive detachment and disengagement from dramatic clinical situations. Since empathy and burnout were negatively related in our sample, we can infer that high levels of empathy can be protective against the development of burnout and, on the

contrary, when burnout is present it might not permit a fully empathic therapeutic relationship with patients. According to our data, we underline the importance of improving the empathic ability among nursing students and nurses, since empathy has been recognized as an ability or skilled behaviour that can be learned and developed through education and practice. Early interventions to promote and develop empathy can be useful not only against its decline related to increased age and/or work activities, but also to counteract development of burnout, which leads professionals to be less responsive to the needs of patients and, at the same time, to be more vulnerable to stress-related illness.

Limitations and advantages

According to our cross-sectional design, we collected data at a single point in time and in both academic institution and general hospital of a single town in Northern Italy. Therefore, our findings cannot be completely generalizable. Longitudinal studies should be implemented to provide more substantive understanding of empathy and burnout correlation, because only prospective research allows us to examine the development of this relationship over time. Despite these limitations, however, our results provide additional information on empathy and burnout of health care staff and students. Moreover, our study analyzes the relationship between two possible influencing factors of good care: empathy and burnout, which have been scarcely studied among nurses and nursing students up to now.

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