

Correlations of burnout and healthcare safety perceptions among Italian Nurses

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Summary. *Background and Aim:* Job burnout is the psychosocial judgement of the physical and psychological tiredness result to the prolongation emotional pressure associated to the job. The World Health Organization (WHO) also promotes care safety culture and awareness, by publishing the “Multi-professional Patient Safety Curriculum Guide” to guarantee patient safety education in universities, schools and professional institutions in the dental, medical, obstetric, nursing and pharmaceutical sectors. Hence, this study highlights correlations existed between burnout levels and patient safety perceptions among Italian nurses who work in different contexts. *Method:* Data were collected in July and August 2019. Burnout was assessed by the Italian version of the 22-item Maslach Burnout Inventory Human Service Survey. The patient safety perception was assessed to the “Hospital Survey on Patient Safety Culture” (HSOPSC) questionnaire. *Results:* 300 Italian nurses voluntary participated in this study. Questionnaire were administered by Google Forms application, were all Italian nurses could voluntary participate. *Conclusion:* Emotional Exhaustion (EE) is the most representative dimension of burnout. This outcome becomes more acute with greater age and seniority in the position, due to the stress and monotony encountered and/or job dissatisfaction. Moreover, our results showed strong and moderate values on different fields of the HSOPSC questionnaire. (www.actabiomedica.it)

Keywords: Burnout; Depersonalization; Emotional Exhaustion; Healthcare Safety Culture; Hospital Survey on Patient Safety Culture” (HSOPSC) questionnaire; Italian Nursing Perception; Maslach Burnout Inventory Human Service Survey; Personal Accomplishment.

Introduction

Job burnout is the psychosocial judgement of the physical and psychological tiredness resulting in the prolonged emotional pressure associated with the job. Emotional exhaustion, the fear of failing and not being able to professionally move forward dissatisfaction with the work responsibilities, the sensation of

constant struggle, exploitation, and the reduced job performance, are different examples of burnout. This syndrome negatively affects the individual's social, physical and psychological life. Burnout is associated with overthrowing ethics, impaired work realization, work absence and inappropriate communication with patients, and a large number of job variations (1,2). The percentage of employment burnout among the nurs-

ing workforce is about 13% to 27%, which is relatively higher than the percentage among the ordinary population due to the poor quality of professional tasks and the high level of stress. Furthermore, the low number of nurses and the excessive workload represents the first cause of exhaustion.

This syndrome not only has an impact on workers but can also reduce the quality of care provided. In recent years, the question of burnout syndrome has been addressed in literature reviews and empirical studies, and the work continues in this field, highlighting its importance in society (3).

These may be sociodemographic (age, sex, marital status, number of children, etc.), employment-related (seniority in the workplace, seniority in the profession, etc.) or psychological (anxiety, stress, depression, personality traits, etc.). The identification of the various factors that influence the development of burnout syndrome would contribute in determining risk profiles among the nursing profession.

Burnout is a complex health obstacle. This obstacle is damaging people and the health system. Consequently, nowadays, special attention has been paid on burnout researchers, especially among the nursing profession (4).

The nursing practice, like other helping related professions, is closely related to the burnout syndrome. In the ICD-11, a more explicit definition of this syndrome has been defined, borrowed from the World Health Organization (WHO), which describes it as a syndrome resulting from work-related stress not properly handled and defined by feelings of tiredness, an increased mental distance from one's work and a reduced professional efficiency (5). Currently there is no univocal or shared definition of this phenomenon, better or yet, of this syndrome. In fact, many researchers have tried to define it and even translate it into Italian from its original English term, as for instance with the term "short circuit". The burnout experience is a phenomenon that is proved to be of extreme interest and concern for the negative consequences it entails, especially among the helping professions. The latter are, as a matter of fact, daily activities which place individuals in close contact with the consumers' suffering. This distress needs urgent, immediate and punctual answers (6).

Furthermore, care security means the specific process that leads to avoiding, preventing and mitigating adverse effects or damage resulting from the health care process. The safety of care concerns errors and deviations from the rules that cause accidents. Therefore it is definable as that set of actions implemented for a correct management of the clinical risk deriving from the provision of health services (7). The clinical risk is the probability that a patient is a victim of an adverse event, that is, he suffers any damage or discomfort attributable, even if unintentionally, to medical care given during the period of hospitalization, which causes an extension of the same, a deterioration of health conditions or death.

The provision of safe healthcare is the central objective of modern health policies. In Italy a fundamental legislative reference was set both citizen and healthcare professionals. It has been established that: "the safety of care is a constituent part of the right to health and is pursued in the interest of the individual and the community; care security is also achieved through all the activities aimed to prevent and manage the risk connected to the provision of health services and the appropriate use of structural, technological and organizational resources" (8).

The European Union with the "Council Recommendation of 9 June 2009 on patient safety, including the prevention and control of healthcare-associated infections" invites member states to "encourage professional organizations in the health sector to create an inter-professional culture of patient safety that allows integrated and high quality care processes". With this aim, the European Council concludes that it is necessary to "develop measures that allow for fair and non-punitive reports by healthcare professionals or patients and support the non-punitive treatment of errors and adverse events and the consequent learning". It is clearly evident that is an objective that the community must pursue despite in the past, when medical error was rarely brought to the attention of patients and never mentioned in medical journals both even considered by the competent authorities(9).

The World Health Organization (WHO) also promotes care safety culture and awareness, by publishing the "Multi-professional Patient Safety Curriculum Guide" to guarantee patient safety education

in universities, schools and professional institutions in the dental, medical, obstetric, nursing and pharmaceutical sectors(10).

Hence, this study highlights correlations existed between burnout levels and patient safety perceptions among Italian nurses who work in different contexts.

Materials and Methods

Data were collected in July and August 2019. Questionnaires were administered in digital format, thanks to the use of social medias, particularly by using the Google “Google Forms” applications to a population composed of qualified and practicing nursing subjects.

Nurses who voluntary agreed to participate in this survey were classified on the basis of variables such as sex, age, years of work experiences and work department in which the profession is carried out.

To assess burnout levels the Italian version of the 22-items Maslach Burnout Inventory Human Service Survey was used (10). It was the most widely accepted questionnaire of burnout, describing it as a three-dimensional syndrome in which a worker experiences emotional exhaustion (EE), or feelings of physical overexertion and emotional fatigue as a result of the continuous interactions required between the worker and the users of the service; depersonalisation (D) or the presence of cynical attitudes and responses towards the people to whom the services are provided; and a the sensation of poor personal achievement (PA) or the lack of confidence and negative self-esteem resulting from meetings with unrewarding situations. The MBI scale contains the three subscales: emotional exhaustion (questions: 1,2,3,6,8,13,14,16,20); depersonalization (questions: 5, 10, 11, 15, 22); personal accomplishment (questions: 4, 7, 9, 12, 17, 18, 19, 21).

Participants were asked to rate from 0(never) to 6(always) the frequency in which they experienced feelings described in each of the 22-items.

For each subscale a risk category was assessed from results obtained, as: emotional exhaustion with low risk for results lower than 17, medium risk for results between 18-29, high risk for results higher than 30. Depersonalization with low risk for results lower

than 5, medium risk for results between 6-11, high risk for results higher than 12. Personal accomplishment with low risk for results lower than 40, medium risk for results between 34-39, high risk for results higher than 33.

Questionnaire administered contained also the “Hospital Survey on Patient Safety Culture” (HSOPSC) questionnaire (12). The HSOPSC is a questionnaire composed of 42 items that investigate 12 different aspects concerning the culture of care safety in particular: openness to communication, feedback and error communication, frequency of reported events, deliveries and the shift change, support in patient safety management, non-punitive error response, continuous learning, overall perception of patient safety, staff behavior, manager expectations and actions regarding safety of the patient, group work between units, group work within the same unit.

For each item a response Linkert-rate scale was associated, which varied from 1 to 5.

Data were analyzed by considering each dimension. It was evaluated through the percentage of positive responses, in particular by combining the two highest answers (score 4 and score 5), the two lowest ones (score 1 and score 2) and the average category showing a neutral attitude (score 3). Percentages with positive responses greater than 75% represented areas of strong safety in patient care, positive results between 50-75% represented “moderate” definable areas and percentages less than 50% showed areas of fragility.

Finally, all dimensions of the HSOPSC scale were correlated with each dimension of the Maslach Burnout Inventory scale. Correlations were considered statistically significant as $p < 0.01$ and $p < 0.05$.

Results

300 Italian nurses were enrolled in this study, where 229 were females (76%) and 71 were males (24%). The average age was 37 years old (minimum 19 years old and maximum 59 years old). All participants worked in average for 12 years (minimum 9 months and maximum 42 years).

They either worked in the Emergency Department (n=132; 44%); in hospital settings (n=109, 36%);

in territorial settings (n=41, 13%) or in ambulatory settings (n=18, 6%).

Among the nurses interviewed, 49.33% (n=148) of them had almost one positive subscale as “high risk” to burnout (Table 1).

97 nurses recorded high level of emotional exhaustion with levels of 23.97 ± 12.36 . While 113 nurses registered low levels of emotional exhaustion.

83 nurses recorded a high risk of depersonalization subscale (mean value: 9.87 ± 6.38)

Personal accomplishment dimension registered a low risk in participants (mean: 39.06 ± 7.04).

As shown in Table 2 among the 12 dimensions studied, seven were considered strong, five were weak and none were moderate. The dimensions considered by professionals as the weakest in absolute were in order of percentage the number 4 “Support of the direction for security”, the number 10 “The staff” and the number 12 “Non punitive response to the error”. The dimension 9 “Team work among several operating units” has recorded very close percentages in moderate and weak areas, with a slight propensity for the latter.

Analyzing the findings obtained from the administration of the HSOPSC questionnaire, it emerges that there may be different aspects of work that contribute to generating stressful situations in nurses. The area investigating the non-punitive response to the error appears to be perceived as among the weakest by 39.55% of nurses; only 31.11% of the sample perceives the same area as strong while 29.33% defines it as moderate. The aspect investigated by this macro-area assumes a double importance both for the safety of the patient in a wider perspective that includes the risk management process and the reporting of errors, and on the stress it generates in the professional who perceives a punitive attitude from part of the above organization.

The area investigating the level of personnel is perceived as the second weakest by the population studied (42.67%) although it is configured as a fundamental aspect both for patient safety and for a relaxed and non-stressful working environment. 29.92% of nurses consider it a strength, while 27.42% express a moderate evaluation.

The area specifically investigating the aspect of deliveries and shift change instead showed better results with 41.17% of professionals who attribute a value of strength while 25% of weakness. Therefore, a difference in communication methods is more evident between different departments and teams rather than within the same group where there is an undoubted sharing of operating methods recorded in fact in the area investigating teamwork within the operating unit. This communication gap could be filled by communication procedures shared within the same company promoted by a managerial level above the different care settings. The area investigating the improvement in continuing education on the organization is the one with the highest percentage (49.11%) among the areas considered strong.

Correlations were more significantly (Table 3), expect in the correlation between the employee training and low professional achievement task; in the duty/shift transfers and internal transfers with all the burn-out dimensions; in the general perception of patient safety and depersonalization and low professional achievement; and in the frequency of event notification and low professional achievement.

Discussion

Current literature is in accordance with these findings: personal factors that influence the risk of burnout

Table 1. Burnout dimensions among the interviewed nurses

MBI dimensions/ Grade of risk	Low risk n (%)	Moderate risk n (%)	High risk n (%)
Emotional Exhaustion	113 (38%)	90 (30%)	97 (32%)
Depersonalization	139 (46%)	78 (26%)	83 (28%)
Personal Accomplishment	165 (55%)	80 (27%)	55 (18%)

Table 2. HSOPSC answers among Italian Nurses

Dimensions/Patient Safety Areas	Strong areas	Moderate areas	Weak areas
	mean \pm stand.dev. %	mean \pm stand.dev. %	mean \pm stand.dev. %
Expectations and promotion of patient safety initiatives by supervisors and managers	135.25 \pm 15.97 45.08%	93.5 \pm 13.08 31.16%	71.25 \pm 4.86 27.75%
Organizational learning and team improvement	136 \pm 13.98 45.33%	61 \pm 16.43 20.33%	103 \pm 28.94 34.33%
Team work within the service units	147.33 \pm 21.94 49.11%	84 \pm 10.44 28%	68.66 \pm 12.5 22.89%
Openness in communication	89.66 \pm 4.04 29.89%	74.66 \pm 1.15 24.89%	135.66 \pm 3.21 45.22%
Feedback and communication about errors	123 \pm 13.08 41%	72.66 \pm 9.86 24.22%	104.33 \pm 4.04 34.78%
Non punitive response to error	97 \pm 7 32.33%	98 \pm 4 32.66%	105 \pm 7.55 35%
Employee training	113.5 \pm 17.93 37.83%	100 \pm 8.6 33.33%	86.5 \pm 21.39 28.83%
Patient safety culture support	129.66 \pm 19 43.22%	77.66 \pm 3.21 25.89%	92.66 \pm 16.56 30.89%
Team work and cooperation among the different service units	88.25 \pm 17.67 29.42%	105.75 \pm 7.04 35.25%	106 \pm 17.79 35.33%
Duty/ shift transfers and internal transfers	89.75 \pm 31.03 29.92%	82.25 \pm 23.2 27.42%	128 \pm 41.75 42.67%
General perception of patient safety	123.5 \pm 31.96 41.17%	101.5 \pm 15.37 33.83%	75 \pm 21.27 25%
Frequency of event notification	93.33 \pm 15.01 31.11%	88 \pm 0 29.33%	118.66 \pm 15.01 39.55%

are ages above thirty / forty years old, marital status of a hen or celibacy and high cultural level. Overall, it can be affirmed that people who face difficulties with a passive or defensive attitude, individuals with reduced control skills or those who engage substantially in their work, are at a higher risk. The literature data regarding the correlation between burnout and the working operating unit, is not alone useful in ex-

plaining the extent of this phenomenon among nurses: individual and socio-cultural variables also, inevitably influence this. For example, a 2009 study in the Cuneo area, in Northern Italy (13), shows that nurses assisting patients in acute care departments present a strong tendency to be dissatisfied; about two times higher than those employed in long-term care facilities. For healthcare professionals, working in the home envi-

Dimensions of patient safety	Emotional Exhaustion	Depersonalization	Low professional Achievements
Expectations and promotion of patient safety initiatives by supervisors and managers	-0.383**	-0.250**	0.242**
Organizational learning and team improvement	-0.144*	-0.125*	0.122*
Team work within the service units	-0.389*	-0.287**	0.284**
Openness in communication	-0.361**	-0.218**	0.319**
Feedback and communication about errors	-0.289**	-0.202**	0.246**
Non punitive response to error	-0.225**	-0.149**	0.171**
Employee training	-0.191**	-0.174**	0.084 (ns)
Patient safety culture support	-0.301**	-0.230**	0.212**
Team work and cooperation among the different service units	-0.158**	-0.120*	0.080 (ns)
Duty/shift transfers and internal transfers	-0.26 (ns)	-0.95 (ns)	0.009 (ns)
General perception of patient safety	0.138*	0.039 (ns)	-0.028 (ns)
Frequency of event notification	0.197**	0.186**	0.058 (ns)

*: Statistical significance $p < 0.05$

** : Statistical significance $p < 0.01$

ns: no significant ($p > 0.05$; $p > 0.01$)

ronment, the increased risk of dissatisfaction was even more significant. Probably, due to the intense rhythms and a significantly high workload, together with a brief interpersonal relationship which is usually established with acute patients, they demonstrate a tendency to a greater discomfort among workers in the hospital wards. In contrast, the need to operate frequently without any support from superiors or colleagues, the reduced demand of highly professional services and the difficulties associated with having to work in environments lacking specialized medical equipment, could motivate the dissatisfaction discovered among the nurses who perform House assistance.

Our study aimed to photograph the burnout level among Italian nurses by only considering facts associated to the nursing class.

Emotional Exhaustion (EE) is the most emblematic element of burnout. This phenomenon becomes more intense with the age increase and seniority in the position, due to the stress, monotony and/or job dissatisfaction.

According to our data, the group of nurses surveyed, present high levels of burnout. Based on Golembiewski's model, 40% are in the highest stages

of burnout (14). These results are in line with recent studies (15,16). The Golembiewski classification is not widely used in burnout studies on burnout, it would be advisable to include it because it provides important information, especially regarding the burnout syndrome classification and diagnosis.

The prevention of burnout helps create a positive working environment, it promotes the nurses autonomy and it facilitates objective achievements. Psychological and organizational interventions especially among younger and less experienced status, would significantly contribute in the reduction of burnout among nurses. Such interventions might include mindfulness programmes, the placement of social support and/or the development of protocols against violence in the workplace. These initiatives could enhance personal protective factors, such as extraversion, agreeableness and openness, as well as organisational ones such as teamwork and job satisfaction, in an environment that can be very demanding and where resources are often insufficient(17,18).

Future research should analyse the influence of these burnout risk factors through longitudinal studies to establish causal relationships. Other variables, such

as biochemical factors that may help the clinical diagnosis of burnout, should also be taken into account. Finally, it would be interesting to analyze the effects of some interventions on burnout reduction in primary care nurses.

Individual actions are effective in controlling burnout. Managers also prevent burnout by guiding and supporting the personnel, by providing reasonable salaries, by including staff's participation in the decision-making and by improving organizational communication. In addition, the study of the diffusion of burnout and its related factors for a successful planning in the prevention and intervention, is one of the most important managerial tasks (19).

Moreover, our results showed strong and moderate values on different fields of the HSOPSC questionnaire. One of the reasons that could explain this trend could be that in Italy today a general lack of staff is estimated in the nursing staff and this necessarily translates into a tendency to offer an inadequate level of assistance with respect to citizens' demand. The insufficiency of the organic is one of the most relevant so-called "latent conditions" of a systemic nature on which the possibility of an episode of sanitary error is grafted: it is a fact that adverse health events are often the tip of an iceberg and constitute the effect of organizational criticalities, rather than of individual fault profiles. Examples can be events related to overwork stress, inattention or lack of communication, which are typically the result of the lack of personnel and the resulting incremental workload for health workers. Although the legislation and guidelines at the international level emphasize the importance regarding the correct application of procedures to ensure safe care and more generally the safety of the patient, from the study emerges as the area investigating the support of the safety management of the patient is among those perceived as weak by health professionals. Among the aspects investigated by the questionnaire administered, in fact, this appears to be the one that in absolute terms records the greatest percentage of weakness with a figure of 45.22% as opposed to the data of strength and moderation recorded with a percentage equal to 29.89 and 24.89, respectively. Therefore, data that has been redirected invites us to pay attention to the attitude not only of the individual operator but of that of the

companies that provide health services that appear not very sensitive to the aspects concerning the safety of care. The other areas in which there was a judgment of weakness greater than that of positivity are those concerning the frequency of errors reported and that of teamwork among several operating units with respective values of 35% and 35.33%. The critical aspect at the base of these different aspects concerning the safety of the care provided is that of communication. In particular, the aspect concerning the frequency of errors reported could be related to that of the punitive response to the error.

It seems almost obvious that in an environment in which the culture of punishment for error predominates and therefore its stigmatization without paying attention to the cause underlying the error itself, the operator does not feel encouraged to bring out the critical points committed or observed during clinical practice. According to C. Vicent (20) there is too much culture of guilt in health care. When things go wrong, the answer is to look for one or two people to blame, who can then be subjected to disciplinary measures or professional censorship. This does not mean that in certain circumstances individual responsibilities should not be taken into account, but this approach, being predominant, represents a significant deterrent to the reporting of adverse events and near misses. The aspect concerning teamwork between several operating units is critical from the results of the survey, and even in this case a communication problem can be hypothesized. Patient information should be exchanged whenever the need arises. This can happen at the end of the shift, on the return of the patient's referent nurse, to the transfer of the patient in another context (for example during the transfer from one department to another), to discharge and in other moments of multidisciplinary briefing or debriefing (eg multidimensional evaluation of the patient, follow up). In literature, various ways of transmitting information can be identified. There may be nursing deliveries in written form (on paper or computerized), oral, registered, with a combination of methods (eg written and verbal deliveries) or at the patient's bed. The data obtained differs from that obtained in the study conducted in Ceara 'in Brazil in 2018 (20) where it is highlights within the same area a classification as moderate (41.9%). This data is shown

to be in contrast with that obtained with regard to the reporting of errors, which turned out to be a weak area but reveals that where there is a critical issue the team contributes positively to improving the aspects of fragility. Also the area investigating the feedback and the communication of the error is defined as strong with a 41% figure denoting an active and critical participation of the staff regarding the critical issues concerning patient safety. The items of the HSOPSC questionnaire investigating this aspect are: the staff is asked for feedback when changes are made based on reports of events that have occurred; staff are informed of errors that occur in the operating unit; the operating unit discusses how to avoid the same mistakes being made again. The clinical audit tool is very effective in communicating the error to the staff; this is defined as the revision, on the basis of explicit criteria, of the activities carried out by operators within the organization, in order to examine and evaluate the appropriateness, effectiveness, efficiency and safety of the services provided, aimed at improvement. These positive communication aspects are also reflected in the data regarding the openness to communication that turned out to be a strong area in 43.22% of cases. Strong areas have defined with respective data of 45.08% and 45.33% those investigating teamwork in the operating unit and the actions of the manager aimed at improving patient safety; of these two dimensions considered, the first recorded 27.75% of weakness while the second 34.33%. Area 7 investigating the overall perception of patient safety is classified as strong for 37.83% of nurses, while only 28.83% of respondents were weak. To address the critical issues that emerged from the study following the administration of the HSOPSC questionnaire, it would be necessary first of all to make the heads of the health companies aware of a positive culture of clinical error and no longer guilty. Studying and understanding the mechanisms that lead to mistakes in order to avoid them happening again is fundamental to pursuing the goal of security. A proposal in this sense is to promote the incident reporting system in the corporate organizations and prepare an adequate risk management organization and a dedicated form for this purpose (21). Incident reporting is a reporting system, born in high-risk organizations and subsequently adapted to the health context. The

tool allows health professionals to describe and communicate adverse events, defined as involuntary damage caused by the health system or the patient's illness, and so-called near misses, defined as "avoided events" associated with errors with the potential to cause an adverse event, which, however, does not occur due to the case or because it is intercepted or because it does not cause undesired effects. This model of operational tool will not be able to change alone the critical issues present in the examined working realities if to change is not the attention and the culture regarding the safety of the care before the single professionals and consequently of the organizational systems(22,23).

In summary, nurse burnout and patient safety security are still critical issues facing nurse managers. Exploratory or associative research studies will not help nurse managers develop interventions or improve burnout and health patient security, both at training and organizational levels (24).

Conflict of Interest

Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

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