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Risk and protective factors associated with being a victim of aggression in the health sector. Research protocol

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Abstract

Background: *aggression against healthcare workers is an alarming issue worldwide. However, there is lack of data on psychological vulnerability factors (such as personality traits, attachment style) which can constitute a risk or a protective factor for being a victim of an episode of violence in the health sector.*
Methods/design: *the present protocol is a cross-sectional study on prevalence and characteristics of violent episodes experienced by nursing students in the clinical setting. Its aim is to identify risk and protective factors for becoming a victim of verbal and/or physical aggression among healthcare workers. Participants will undergo an intensive battery of psychometric tests, dealing with episodes of aggression in the previous year, attachment style, personality traits, perceived stress, health related quality of life and job strain.*
Conclusions: *the findings derived from this study may be of value in identifying vulnerability factors in experiencing an episode of aggression in the health sector. In this respect, it is a step towards the development of valid training and support focused on health workers, aimed at teaching them how to modulate and manage their vulnerability factors in an efficient way.*

Keywords: *aggression, healthcare workers, personality traits, nursing students*

Background

In the last decades, growing attention has been paid to the occurrence of episodes of violence at work, which has become an alarming issue worldwide [1]. In the healthcare workplace, being victim of aggression is quite common, representing 25% of all workplace violence [2]. Violent episodes range from offensive and threatening language to homicide [3]. According to the National Institute of Occupational Safety and Health (NIOSH) [3] violence at work is represented by "violent acts (including physical assaults and threats of assault) directed toward persons at work or on duty".

Consequently, it includes "threats (expressions of intent to cause harm, including verbal threats, threatening body language, and written threats), physical assaults (attacks ranging from slapping and beating to rape, homicide, and the use of weapons such as firearms, bombs, or knives) and muggings (aggravated assaults, usually conducted by surprise and with intent to rob)"[3].

Not every hospital department is equally exposed to such episodes, the psychiatric, geriatric and emergency sectors being the most vulnerable ones [4-7].

Violence against healthcare workers constitutes also a "sentinel event", or a specific situation which reveals the presence of a risk in the workplace, which needs the development of protective and preventive measures [3].

International data underline that around 4% of health workers have experienced a physical assault. Nurses tend to be exposed to violence with a frequency 3 times higher than that of any other professional group [8]. Nursing students are particularly at risk for experiencing a violent episode in the clinical setting [9-14]. Risk factors are represented by inexperience, lack of training, and younger age [10]. It has been estimated that 26% of physical assaults lead to mild, 11% to moderate and 6% to severe injuries [15].

Workplace violence leads to several consequences that range from the individual to the organization [16]. Assaulted staff often present negative outcomes which can last over time and include anger, anxiety, fear, post-traumatic stress disorder symptoms, guilt, self-blame, shame, helplessness, despair and resentment [17-21]. In addition, being a victim of aggression is associated with a low job satisfaction, increased occupational strain and low patient care outcomes [10, 22].

At the organizational level, violence at work can negatively affect the financial and functional situation, in terms of medical and legal costs, difficulties in staff hiring and retaining, absenteeism, low morale and reduced quality of provided services [17, 21].

Assaults often arise during times of intense activity and interaction with patients. Episodes of violence can emerge when service is denied, a patient is involuntarily committed or a health worker tries to set limits to eating, drinking alcohol or smoking [3, 23, 24]. Such episodes in hospitals are usually performed by patients and more rarely by family members who experience frustration, vulnerability and loss of control [3].

Risk factors of violence related to patients and their care environment can be classified as static and dynamic [25]. Static risk factors are those aspects that are stable over time such as family background, childhood trauma or offending, age and gender. They can be looked at during risk assessment to predict occurrence in the long term. On the other hand, dynamic risk factors can change and can constitute a target for intervention. They are represented by psychiatric symptoms, alcohol or substances misuse and non-adherence to treatment. They are considered to be useful to predict assaults in the short term. Consequently, both static and dynamic factors can be helpful during the risk assessment and can be taken into account in the development of strategies to prevent or minimize the impact of violent episodes [25].

In a systematic review and meta-analysis by Witt and colleagues [26] on risk factors in psychiatric patients affected by psychosis, a criminal history was found to be the strongest static risk factor preceding an assault. Dynamic factors dealt with hostile behaviour, impulsivity, recent drug or alcohol misuse, positive psychotic symptoms and non-adherence with psychological and pharmacological therapy.

Violence stems from a combination of intrinsic and extrinsic factors as well as the setting and context in which it occurs [27]. Consequently, its prevention and management constitutes quite a complex issue. Intrinsic factors deal with personality traits, level of mental distress and difficulties in dealing with anger; extrinsic factors regard the social setting where assaults occur, aggressor's disposition, victims' characteristics, as well as health and social professionals' experience and training and the perceived risk of danger to others [27].

Despite several researches having being performed aimed at finding risk factors predictive of violent episodes focused on the aggressor [10, 25, 26, 28-33], and on their victims [22, 28, 31, 32, 34], there is still lacking, to our knowledge, a study which focuses on personality traits which can constitute risk factors related to health workers who are victims of violence. This, in our opinion, constitutes a topic of particular interest and importance, as it would allow the development of training and support focused on health workers, which would permit them to learn how to modulate and manage their vulnerability factors in an efficient way.

Consequently, a first objective of this research protocol is to investigate the presence of possible associations between specific personality traits and the risk of being a victim of verbal or physical assault (measured through the frequency of such episodes in the 12 months preceding the assessment). A second objective is the study of

possible associations between personality traits, attachment style, verbal or physical assault episodes, perceived stress, job strain and health-related quality of life. The study will be performed at the University Hospital Policlinico Umberto I, a large 1100-bed teaching hospital in Rome, in Central Italy.

Methods/design

Study objectives

The study objectives are as follows:

1. To evaluate the prevalence and type (verbal or physical) of workplace violence, experienced by second and third year nursing students during 1 year and the study of their level of perceived stress, job strain and health-related quality of life;
2. To explore aggressors' static risk factors (such as diagnosis, age, genre, etc.) for the occurrence of the violent episode.
3. To explore victims' predictive and protective static factors (such as age, genre, personality traits) for the occurrence of the violent episode, on the basis of the number of violent episodes experienced in the previous 12 months;
4. To explore possible associations between personality traits, attachment style, violent episodes, perceived stress, job strain and health-related quality of life.

Study design

The trial is designed as a single-centre, cross-sectional study.

Ethics

Written consent will be obtained from all participants. The study will be carried out in accordance with the Helsinki Declaration of 1975, as revised in 1983. The study protocol and consent procedures will be reviewed and approved by the Ethic Committee of the Hospital "Policlinico Umberto I".

Participants and recruitment

Participants will be recruited among the second and third year nursing students of Sapienza University of Rome.

Evaluation procedure

Participants will be informed of the aims and procedures of the study, and after having been provided with the written informed consent, they will be evaluated through the following psychometric instruments (which will be given in a random order):

1. Violent Episodes Survey

The Violent Episode Survey, specifically developed for the current study, is a self-completed questionnaire which refers to:

1. The nursing student's socio-demographical data;
2. The occurrence of verbal or physical aggressions in the previous 12 months;
3. The environmental characteristics of the aggression;
4. The type of aggression;
5. The characteristics of the aggression;
6. How the nursing student felt soon after the aggression;
7. The possible motivations at the basis of the aggression;
8. The number of days spent at home (if any) because of the aggression
9. The presence of possible conflicts within the team;

In addition, it explores the presence of psychopathological symptoms related to the traumatic event (such as traumatic memories, withdrawal, emotional numbing, and hyperarousal), the possible reasons for not notifying the event, and the nursing student's opinion on contributing factors of violent episodes and possible measures which should be taken to prevent such events.

The survey has been developed on the basis of 3 existing instruments:

- Violent Incident Form (VIF) [35]
- Workplace Violence in the Health Sector [36]
- Incident reporting on violent episodes against healthcare workers [37]

2. Experiences in Close Relationships (ECR)

The questionnaire "Experiences in Close Relationships" [38] is an instrument designed to evaluate attachment styles in the adult population. It is composed of 36 items, each scored on a 7-point scale. It has a bidimensional structure with a factor named "Anxiety" and another named "Avoidance". Subjects scoring high on the Avoidance scale tend to avoid situations of intimacy and emotional closeness, do feel uncomfortable opening up to their partner, to whom they tend not to ask for help, advice and support. People scoring high on the Anxiety scale show anxious feelings in relation to their emotional relationships, need to be very close to their partner, worry about being abandoned, and tend to ask their partner for attention and more commitment.

For this protocol will be used the Italian adaptation, which has proved to maintain the internal consistency

and factorial structure of the original instrument, except for one item.

3. Minnesota Multiphasic Personality Inventory – 2 (MMPI – 2)

The MMPI-2 [39] is a self-administered questionnaire composed of 567 binary items (true/false) referring to the individual psychological status. It is composed of 10 clinical scales and three validity scales. MMPI-2 clinical scales are: scale 1 (Hs, hypochondria), scale 2 (D, depression), scale 3 (Hy, hysteria), scale 4 (Pd, psychopathic deviate), scale 5 (Mf, masculine-feminine interests), scale 6 (Pa, paranoia), scale 7 (Pt, psychasthenia), scale 8 (Sc, schizophrenia), scale 9 (Ma, mania), and scale 10 (Si, social introversion/extroversion). The main validity scales are: L (lie scale), F (infrequency), and K (correction scale). It is a psychometric test which can be administered and interpreted by expert clinical psychologists or psychiatrists. It requires almost 1 hour to 90 minutes to complete.

4. Stress-related Vulnerability Scale (SVS)

The SVS [40] is a short self-completed questionnaire which measures both perceived stress and social support. It consist of 9 items scored on a 4-point scale (not at all, a little, quite a bit, a lot), it can be administered and intepreted in a few minutes and it has shown satisfactory psychometric properties, with a good validity and reliability. The total score represents a measure of the state of stress-related vulnerability. A factorial analysis leads to three subsale scores (i.e., 'Tension', 'Demoralization', 'Reduced Social Support').

5. Short Form-12 Health Survey (SF-12)

The SF-12 [41] is a short health-related quality of life questionnaire developed from the longer version SF-36 [42]. It assesses eight domains of health and well-being:

1. Physical functioning;
2. Role limitations due to physical health problems;
3. Bodily pain;
4. General health;
5. Vitality;
6. Social functioning;
7. Role limitations due to emotional problems;
8. Mental health.

From these eight domains 2 subscales can be computed: the Physical Component Summary (PCS) and Mental Component Summary (MCS). The scores range from 0 to 100 for each scale, with higher scores indicating better health status. The Italian version of SF-12 [43] will be used to measure mental and physical health related quality of life of healthcare workers in this study.

6. Demand/Control/Support (DCS) Questionnaire

The DCS Questionnaire [44] will be used to measure job strain. It focuses on job task and measures 3 components:

1. Psychological demands (PD): composed of five items;
2. Decision latitude (DL): composed of six items;
3. Social Support (SS): composed of six items.

In this study the Italian version [45] will be used. The PD and DL scale are scored on a 4-point scale from 1= never to 4 = often, while the SS scale is score on a 4-point scale from 1 = strong disagreement to 4 = strong agreement.

Statistical analysis plan

Data will be analyzed using the Statistical Package for Social Sciences version 20.0.

The following statistical analysis will be performed:

- Descriptive statistics with the evaluation of mean, standard deviation and frequency distribution of socio-demographical and clinical variables of the two groups (aggressors and nursing students).
- Paired sample t-test or chi-square test, as appropriate, will be used to compare continuous and categorical variables between nursing students who have and have not experienced an assault in the previous 12 months.
- Multiple linear regression analysis will be performed to explore predictive factors of the violent episode related to the aggressor (his/her age, genre, diagnosis etc.)
- Multiple linear regression analysis will be performed to explore predictive factors of the violent episode related to the victim (his/her age, genre, personality traits, etc.)
- Pearson's correlation coefficient will be used to explore correlations between personality traits and the number of aggressions experienced in the previous 12 months; secondly, a multivariate analysis will be performed to control for possible confounding factors
- Pearson's correlation coefficient will be used to explore possible associations between personality traits, attachment style, number and type of violent episodes experienced, perceived stress, job strain, and health-related quality of life in the nursing students group.
- The alpha value will be set to 5%. All tests will be two tailed.

Dissemination

The main findings of the study will be presented at national and international conferences and published in

international peer review journals.

Conclusion

The present study has two main goals. The first is to better understand psychological risk and protective factors for being a victim of aggression in the health sector. Once this goal has been achieved, the second step and aim is to develop training and support focused on teaching healthcare workers how to manage and deal with vulnerability factors in the most efficient way.

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