

# Validation of the Italian Version of the Perception of Aggression Scale (POAS): A Cross-Sectional Study

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## ABSTRACT

**Background:** Aggression in healthcare settings is a persistent occupational hazard that affects staff well-being, the quality of patient care, and organizational dynamics. Understanding healthcare professionals' perceptions of aggression is crucial for designing effective interventions and improving workplace safety. This study aimed to validate the Italian version of the short-form Perception of Aggression Scale (POAS) and to examine how demographic and professional variables influence staff attitudes toward aggression in clinical settings. **Methods:** The POAS was administered to a heterogeneous sample of 475 healthcare professionals across multiple hospital departments and educational settings. Psychometric properties, including internal consistency and test-retest reliability, were evaluated. Bivariate and multivariate analyses assessed associations between perceptions of aggression and sociodemographic variables. **Results:** The Italian POAS demonstrated strong psychometric performance, with high internal consistency ( $\alpha = 0.82$  for dysfunctional;  $\alpha = 0.76$  for functional aggression) and temporal stability. While dysfunctional interpretations of aggression were prevalent across the sample, functional perceptions, viewing aggression as contextually meaningful or communicative, were more common among male participants and physicians. Multivariate analysis revealed a strong inverse relationship between functional and dysfunctional perceptions, suggesting a polarized interpretive schema. **Conclusions:** The validated Italian POAS is a reliable tool for assessing healthcare workers' attitudes toward aggression. Its integration into clinical training, audits, and risk management systems could facilitate early identification of negative attitudes and support the development of targeted de-escalation strategies. Future research should investigate longitudinal shifts in perception and the tool's adaptability across diverse healthcare settings.

## 1. INTRODUCTION

Patients' aggressive behaviors within hospital settings represent a critical concern, both clinically and organizationally. These behaviors, ranging from verbal threats and non-verbal intimidation to physical assaults, are particularly prevalent in high-stress departments such as psychiatric units and emergency care settings [1, 2]. Aggression not only

compromises the physical and psychological well-being of healthcare workers but also undermines the therapeutic alliance, potentially impairing care quality and patient outcomes [3, 4]. The assessment of aggression in clinical contexts is essential for developing appropriate management strategies. Several studies have investigated the environmental and organizational variables contributing to violent incidents, including staffing ratios, ward architecture,

staff training and experience, and workload intensity [5, 6]. In psychiatric and emergency departments in particular, healthcare professionals report increased exposure to aggression due to the complexity and acuity of patient conditions [1, 7].

Importantly, research has also highlighted the role of healthcare workers' perceptions and attitudes in shaping their responses to aggression. Studies by Whittington and Higgins [4] and Trenoweth [7] emphasized that individual attitudes, shaped by prior experience, training, and team culture, play a pivotal role in shaping risk perception and intervention style. In a seminal study, Finnema et al. [2] examined how psychiatric nurses construed aggression and identified a range of functional and dysfunctional beliefs that appeared to influence staff-patient dynamics. These insights led to the development of the Perception of Aggression Scale (POAS), originally composed of 60 items and later refined to a more practical 12-item format [3]. The POAS has since been used in various settings to evaluate healthcare workers' cognitive framing of aggression and to inform training, supervision, and policy decisions [1]. However, Italy still lacks a validated version of this scale. The absence of such an instrument significantly hampers research on aggression in Italian-speaking populations and limits the implementation of effective prevention programs.

Given the growing number of reports of violence against healthcare professionals in Italy and the increasing recognition of workplace aggression as a public health issue [8, 9], developing a culturally and linguistically validated version of the POAS is imperative. This study aims to address that gap by validating the short version of the POAS in Italian through forward and backward translation, expert panel review, and psychometric analysis.

In the Italian healthcare system, aggression toward healthcare workers is increasingly recognized not only as an occupational safety issue but also as a cultural and organizational challenge. National surveillance data and ministerial recommendations indicate that aggressive incidents are often underreported and inconsistently normalized across clinical settings, and that healthcare workers differ in how they cognitively frame and tolerate such behaviors. Understanding how aggression is perceived,

whether as an unacceptable violation or as a contextualized expression of patient distress, is therefore particularly relevant in the Italian context, where preventive strategies are still unevenly implemented.

The present study aims to (a) cross-culturally adapt and validate the Italian version of the short form of the Perception of Aggression Scale (POAS) and (b) examine associations between POAS subscale scores and sociodemographic and professional variables in a heterogeneous sample of healthcare workers and students.

## 2. METHODS

### 2.1. POAS Instrument

The short-form Perception of Aggression Scale (POAS) comprises 12 items grouped into two conceptually distinct subscales: Dysfunctional Perception (aggression as unjustified, harmful, and unacceptable) and Functional Perception (aggression as communicative or contextually meaningful). Items are rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). Subscale scores were computed as the mean of items within each subscale, with higher scores indicating greater endorsement of the corresponding conceptualization. No established clinical cutoffs are available for the POAS short form; therefore, scores were treated as continuous variables. Example items include: 'Aggression is a sign of failure' (Dysfunctional) and 'Aggression can be a form of communication' (Functional).

### 2.2. Translation and Cross-Cultural Adaptation

The Italian version was developed using a standardized forward-backward translation process adapted from the guidelines proposed by Beaton et al. Two independent bilingual translators performed forward translations, which were reconciled into a single Italian version. A native English speaker, blinded to the original questionnaire, conducted the backward translation. An expert panel of clinicians and occupational health researchers reviewed semantic, idiomatic, experiential, and conceptual equivalence. Cognitive pretesting was conducted

with a convenience sample of 20 participants (students and staff) to assess clarity and cultural relevance; minor wording adjustments were made based on feedback.

### 2.3. Sample and Recruitment

Participants were recruited from October 2022 to May 2025 from a large public hospital network in Rome, Italy, including Medical, Surgical, Emergency/ICU, Ambulatory care, and Didactic structures. The Didactic structures subgroup comprised undergraduate healthcare students in clinical placements within the hospital network. All healthcare workers and students aged  $\geq 18$  years assigned to the selected units were invited via internal communications and in-person announcements. Participation was voluntary and anonymous. Exclusion criteria included refusal to participate or incomplete responses to core POAS items. Written informed consent was obtained at the start of the questionnaire. The sample size ( $n = 475$ ) exceeded common psychometric recommendations for 12-item instruments (e.g.,  $\geq 10$ – $20$  participants per item) and was consistent with prior validation studies.

### 2.4. Ethical Considerations

According to institutional policy, the study was considered exempt from formal Institutional Review Board review because it consisted of an anonymized, non-interventional survey with no identifiable personal data. Written informed consent was obtained from all participants prior to participation.

### 2.5. Statistical Analysis

All statistical analyses were conducted in SPSS (version 27). Descriptive statistics (means, standard deviations, and frequencies) were computed for demographic and professional variables. Internal consistency of the two POAS subscales ('Aggression as dysfunctional and undesirable' and 'Aggression as functional and understandable') was assessed using Cronbach's alpha.

Bivariate analyses were conducted to assess associations between POAS scores and categorical

variables (e.g., gender, education, marital status, job role) using independent-samples t-tests and one-way ANOVA, and Pearson's correlation was used for continuous variables such as age.

To further investigate predictors of perceived aggression, we conducted multivariate linear regression analyses for both POAS subscales (dysfunctional and functional). For each outcome, we tested two models: a full model including all independent variables (age, gender, marital status, education, job category, and the opposing subscale score), and a stepwise model in which variables were retained based on statistical significance to optimize explanatory power. We evaluated the goodness of fit for each model using the coefficient of determination ( $R^2$ ), which indicates the proportion of variance explained by the predictors.

## 3. RESULTS

The final sample comprised 475 participants recruited from various departments of a large public hospital network in Italy. Participants were distributed across five main areas: Medical ( $n = 65$ ), Surgical ( $n = 42$ ), Emergency/Intensive Care Units ( $n = 60$ ), Didactic Structures ( $n = 282$ ), and Ambulatory Care ( $n = 26$ ). This heterogeneous composition was intended to enhance the generalizability of the findings and to reflect diverse professional experiences with patient aggression (Table 1).

Participants completed the POAS questionnaire twice, over two sessions held 24 hours apart. Cases with missing values on outcome variables were excluded pairwise from relevant analyses. missing data were below 5% for all variables. The inclusion of multiple sessions allowed the researchers to evaluate the temporal stability of the instrument.

Cronbach's alpha coefficients indicated strong internal consistency for both the Dysfunctional Perception subscale ( $\alpha = 0.82$ ) and the Functional Perception subscale ( $\alpha = 0.76$ ). No significant differences were observed between the two administrations, supporting short-term test-retest reliability.

Descriptive trends suggested that women tended to perceive aggression as more dysfunctional, while men more frequently interpreted it as functional. Similarly, participants with higher educational

**Table 1.** Characteristics of the Sample.

Variable	n (%) or mean (SD)
<i>Gender</i>	
Female	331 (69.7)
Male	144 (30.3)
Age (years)	33.24 (13.46)
<i>Sons</i>	
Yes	103 (21.7)
No	372 (78.3)
<i>Marital Status</i>	
Single	339 (71.4)
Married or Cohabiting	117 (24.6)
Separated or Divorced	18 (3.8)
Widowed	1 (0.2)
<i>Educational Level</i>	
University Degree	178 (37.5)
Middle School	3 (0.6)
High School	294 (61.9)
<i>Job</i>	
Physicians	36 (7.6)
Nurses	163 (34.3)
Other Healthcare Professionals	34 (7.2)
Students	242 (50.9)
<i>Type of Ward/Department</i>	
Medical	65
Surgical	42
Emergency/ICU	60
Didactic Structure	282
Outpatient Care	26

attainment and those working as physicians appeared more inclined to endorse functional perceptions of aggression. However, these trends were not consistently supported by inferential statistics and should be interpreted cautiously. A detailed overview of the univariate and bivariate results is presented in Table 2.

Results show that gender was significantly associated with the perception of functional aggression ( $p = 0.026$ ), with males reporting higher mean scores ( $M = 1.54$ ;  $SD = 0.88$ ) compared to females ( $M = 1.38$ ;  $SD = 0.63$ ). This suggests that men may be

more inclined to attribute a functional or constructive value to aggressive behaviors. In contrast, no significant differences were found in dysfunctional aggression by gender ( $p = 0.940$ ), indicating similar perceptions of negativity across sexes. Age, on the other hand, did not show significant correlations with either dysfunctional ( $r = -0.081$ ;  $p = 0.079$ ) or functional aggression ( $r = 0.010$ ;  $p = 0.834$ ). While the negative correlation with dysfunctional aggression was marginally non-significant, it reflects a trend in line with the multivariate analysis, suggesting a possible age-related attenuation in perceiving aggression as harmful.

There were no statistically significant differences in either dimension of aggression based on whether participants had children. Mean scores were very close across both groups, and  $p$  values remained well above the threshold of significance (dysfunctional  $p = 0.584$ ; functional  $p = 0.268$ ).

Perceptions of both dysfunctional and functional aggression did not differ significantly across marital status groups ( $p = 0.907$  and  $p = 0.497$ , respectively). Although widowed participants reported higher levels of functional aggression ( $M = 2.50$ ), this result should be interpreted with caution due to the very small subgroup size (likely  $n = 1$ ).

No significant differences emerged across educational levels for either aggression type (dysfunctional  $p = 0.290$ ; functional  $p = 0.714$ ). However, individuals with a university degree reported slightly lower dysfunctional aggression ( $M = 4.69$ ;  $SD = 0.41$ ) and slightly higher functional aggression ( $M = 1.45$ ;  $SD = 0.69$ ) than other educational groups, suggesting a trend warranting further investigation. Job category, instead, did not yield significant differences in perceptions of aggression (dysfunctional  $p = 0.317$ ; functional  $p = 0.142$ ). Nonetheless, physicians had the highest mean functional aggression score ( $M = 1.64$ ;  $SD = 0.99$ ), consistent with the results observed in the multivariate model. Other healthcare professionals had the lowest perception of functional aggression ( $M = 1.26$ ;  $SD = 0.39$ ), suggesting a narrower attribution of constructive value to aggressive behavior [7, 8, 9].

Multivariate regression results are summarized in Table 3. In the full model, being a physician was positively and significantly associated with higher

**Table 2.** Univariate and Bivariate Analysis.

<b>Variable</b>	<b>Dysfunctional Relation Mean (SD) or <i>r</i></b>	<b>Functional Relation Mean (SD) or <i>r</i></b>
<i>Gender</i>		
Female	4.72 (0.41)	1.38 (0.63)
Male	4.72 (0.40)	1.54 (0.88)
<i>p</i>	0.94	0.026
<i>Age</i>		
<i>P</i>	-0.081	0.010
<i>P</i>	0.079	0.834
<i>Sons</i>		
Yes	4.70 (0.40)	1.50 (0.79)
No	4.72 (0.41)	1.41 (0.69)
<i>p</i>	0.584	0.268
<i>Marital Status</i>		
Single	4.73 (0.41)	1.44 (0.74)
Married or Cohabiting	4.71 (0.37)	1.43 (0.64)
Separated or Divorced	4.58 (0.67)	1.37 (0.66)
Widowed	4.83	2.50
<i>p</i>		0.497
<i>Educational Level</i>		
University Degree	4.69 (0.41)	1.45 (0.69)
Middle School	5.00 (0.00)	1.11 (0.19)
High School	4.73 (0.41)	1.43 (0.74)
<i>p</i>	0.290	0.714
<i>Job</i>		
Physicians	4.75 (0.42)	1.64 (0.99)
Nurses	4.67 (0.42)	1.46 (0.64)
Other Healthcare Professionals	4.76 (0.29)	1.26 (0.39)
Students	4.74 (0.42)	1.41 (0.75)
<i>p</i>	0.317	0.142

levels of perceived dysfunctional aggression ( $\beta = 0.082$ ;  $p = 0.041$ ), suggesting that physicians tend to attribute more negative and disruptive meanings to aggression compared to nurses (reference group). However, this association lost significance in the stepwise model ( $\beta = 0.121$ ;  $p = 0.083$ ), although the direction of the effect remained consistent. Age was negatively associated with dysfunctional aggression; although the association was only marginally significant in the stepwise model ( $\beta = -0.003$ ;  $p = 0.052$ ), it suggests that older individuals tend to perceive aggression as less dysfunctional, possibly reflecting increased professional experience or

improved emotion regulation over time. The most robust predictor was functional aggression, which showed a significant and negative association with dysfunctional aggression ( $\beta = -0.178$ ;  $p < 0.001$ ). This finding supports the notion that a greater ability to recognize constructive or communicative aspects of aggression is linked to a reduced tendency to interpret it as inherently harmful or inappropriate. All multivariate regression models included job category (physicians, nurses, other healthcare professionals, and students) as an independent variable to account for potential confounding due to professional role and experience. Given that students

**Table 3.** Multivariate Analysis.

Variables	Dysfunctional		Functional	
	Full model $\beta$ ( $p$ )	Stepwise $\beta$ ( $p$ )	Full model $\beta$ ( $p$ )	Stepwise $\beta$ ( $p$ )
Age	-0.004 (0.060)	<b>-0.003 (0.052)</b>	-0.002 (0.621)	
Female gender	-0.004 (0.917)		<b>-0.170 (0.016)</b>	<b>-0.159 (0.019)</b>
Married	0.039 (0.456)		0.010 (0.914)	
University Degree	-0.071 (0.280)		-0.156 (0.169)	
Nurse (Ref)	-----		-----	
Physicians	<b>0.082 (0.041)</b>	<b>0.121 (0.083)</b>	0.240 (0.073)	<b>0.248 (0.040)</b>
Other Healthcare Professionals	-0.177 (0.283)		-0.190 (0.155)	
Students	-0.004 (0.584)		-0.199 (0.187)	
Functional Aggression	-0.177 (<0.001)	<b>-0.178 (&lt;0.001)</b>	-----	
Dysfunctional Aggression	-----		<b>-0.537 (&lt;0.001)</b>	<b>-0.541 (&lt;0.001)</b>
	<b>R<sup>2</sup> = 0.111</b>	<b>R<sup>2</sup> = 0.105</b>	<b>R<sup>2</sup> = 0.119</b>	<b>R<sup>2</sup> = 0.112</b>

represented a substantial proportion of the sample, results should be interpreted as reflecting a mixed population of practicing healthcare workers and trainees rather than experienced professionals alone.

Regarding functional aggression, gender emerged as a significant predictor: women (compared to men, the reference group) were more likely to attribute functional meaning to aggressive behaviors ( $\beta = -0.170$ ;  $p = 0.016$  in the full model;  $\beta = -0.159$ ;  $p = 0.019$  in the stepwise model). This may reflect gender-related differences in emotional framing or social cognition. Again, being a physician was a significant positive predictor of functional aggression ( $\beta = 0.248$ ;  $p = 0.040$  in the stepwise model), indicating that physicians, while perceiving higher levels of dysfunctional aggression, are also more likely to acknowledge its functional aspects—perhaps due to the complex and high-pressure nature of their clinical environments. Finally, dysfunctional aggression was negatively and significantly associated with the perception of functional aggression ( $\beta = -0.541$ ;  $p < 0.001$ ), confirming a strong inverse relationship between the two constructs. This supports the theoretical assumption that cognitive appraisals of aggression are multidimensional, influenced by whether the behavior is framed as harmful or potentially constructive.

#### 4. DISCUSSION

Aggression in healthcare settings is widely recognized as a critical occupational hazard with significant implications for workers' physical safety, psychological well-being, and organizational functioning [10, 11]. Although traditionally viewed as purely disruptive or pathological, contemporary trauma-informed and relational care models suggest that aggression may, in certain clinical contexts, be a communicative act reflecting distress, unmet needs, or acute psychological dysregulation [2, 3]. Within this framework, healthcare workers' cognitive appraisals of aggression play a pivotal role in shaping both individual responses and institutional management strategies [12].

Repeated exposure to patient violence may lead to emotional desensitization, heightened moral distress, and ultimately burnout, a constellation of symptoms including emotional exhaustion, depersonalization, and reduced professional efficacy [13, 14]. These psychological sequelae may shape how aggressive behaviors are interpreted, whether as threats requiring containment or as signals warranting empathetic understanding [15, 16]. In the present study, the Dysfunctional Perception subscale of the Italian POAS yielded consistently high scores

( $M = 4.72$ ,  $SD = 0.41$ ), indicating that aggression is widely perceived as undesirable, harmful, and unjustifiable among healthcare professionals. Notably, no sociodemographic or professional variables, including age, gender, educational level, marital status, parenthood, or job category, were significantly associated with dysfunctional perception. This finding suggests that viewing aggression as inherently negative may reflect a pervasive, culturally reinforced belief within Italian healthcare settings, rather than an attitude shaped solely by individual characteristics.

Conversely, Functional Perception scores were markedly lower ( $M = 1.45$ ,  $SD = 0.73$ ), indicating limited endorsement of aggression as meaningful, communicative, or contextually understandable. However, important differences emerged. Male participants reported significantly higher functional perception scores than females, consistent with previous findings in psychiatric and emergency care contexts, where male staff tend to frame aggression more often within procedural or clinical models rather than affective ones [7, 17]. When stratified by professional role, physicians had the highest functional perception scores, followed by nurses, students, and other healthcare professionals. Although these differences did not always reach statistical significance, the observed gradient suggests a role-related cognitive framing influenced by clinical responsibility, training, and repeated exposure to aggressive incidents [4, 14].

Multivariate regression analyses further clarified these relationships. Functional perception emerged as the strongest negative predictor of dysfunctional perception, supporting the hypothesis that recognizing aggression as situationally driven or communicative may buffer against interpreting it as purely threatening or illegitimate. This bidirectional, inverse relationship confirms the multidimensional nature of aggression appraisal and aligns with theoretical models that emphasize cognitive framing as a key determinant of behavioral response [12]. Age showed a marginal inverse association with dysfunctional perception, suggesting that professional experience or emotional regulation may slightly attenuate negative appraisals over time, although this effect did not reach conventional statistical significance.

From an occupational medicine perspective, these findings have direct practical implications. The availability of a validated Italian version of the POAS provides occupational physicians with a structured, reliable tool for assessing healthcare workers' cognitive and emotional framing of patient aggression. Integrating the POAS into occupational health surveillance programs may facilitate early identification of professionals who predominantly endorse dysfunctional perceptions of aggression and who may therefore be at higher risk for stress-related outcomes, reduced coping capacity, or burnout. Furthermore, repeated POAS administration before and after preventive interventions could support the evaluation of organizational strategies to mitigate the psychological impact of workplace violence.

Importantly, perceptions of aggression are shaped not solely by individual characteristics but also by broader organizational and contextual dynamics [1]. While exposure to repeated aggressive incidents has been linked to emotional exhaustion, depersonalization, and burnout [13, 14], educational and organizational interventions have been shown to improve staff attitudes, perceived self-efficacy, and preparedness in managing aggressive situations [2]. In this context, the POAS may function not only as an assessment instrument but also as a monitoring tool within risk management frameworks, complementing incident reporting systems and supporting targeted training initiatives.

Several limitations should be acknowledged. A major limitation concerns the composition of the sample, in which healthcare students represented more than half of the participants. Although students were included because they are exposed to patient aggression during clinical training, their perceptions may differ substantially from those of experienced professionals due to limited clinical responsibility, shorter exposure, and different coping strategies. Consequently, the findings should not be generalized exclusively to practicing healthcare workers. Future validation studies should prioritize stratified sampling by professional role and clinical unit, particularly in high-risk settings such as emergency departments, psychiatric units, and intensive care.

A further limitation concerns the 24-hour interval used for test-retest assessment. While appropriate

for evaluating short-term reproducibility, this design does not permit conclusions about long-term temporal stability or sensitivity to training-related changes. Longitudinal studies with extended retest intervals are needed to determine whether attitudes toward aggression evolve over time or in response to organizational interventions. Future research should also examine the role of mediating variables, such as burnout, empathy, and perceived organizational support, to better understand the mechanisms linking exposure to aggression and cognitive appraisal.

## 5. CONCLUSION

The present study confirms the psychometric validity and reliability of the Italian short version of the Perception of Aggression Scale (POAS). The translated instrument demonstrated strong internal consistency and test-retest stability, supporting its applicability across a heterogeneous population of healthcare professionals and trainees. The absence of significant changes over time suggests that healthcare workers' attitudes toward aggression are relatively stable, underscoring the need for proactive educational and organizational strategies.

These results underscore the importance of assessing healthcare workers' attitudes toward aggression as part of comprehensive workplace violence prevention strategies. Integrating the POAS into occupational health practice may support early detection of maladaptive cognitive frames, guide targeted training initiatives, and contribute to safer, more supportive care environments. By providing a culturally validated instrument, this study offers a valuable resource for occupational physicians, healthcare organizations, and researchers seeking to better understand and manage aggression-related risks.

Further longitudinal and multicenter studies are recommended to assess predictive validity, long-term attitude shifts, and the scale's cultural adaptability in varied healthcare settings.

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**INFORMED CONSENT STATEMENT:** Informed consent was obtained from all subjects involved in the study.

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## REFERENCES

1. Palmstierna T, Barredal E. Evaluation of the Perception of Aggression Scale (POAS) in Swedish nurses. *Nord J Psychiatry*. 2006;60(6):447-451. Doi: 10.1080/08039480601021803
2. Finnema EJ, Dassen T, Halfens R. Aggression in psychiatry: a qualitative study focusing on the characterization and perception of patient aggression by nurses working on psychiatric wards. *J Adv Nurs*. 1994;19(6):1088-1095. Doi: 10.1111/j.1365-2648.1994.tb01192.x
3. Jansen G, Dassen T, Moorers P. The perception of aggression. *Scand J Caring Sci*. 1997;11(1):51-55. Doi: 10.1111/j.1471-6712.1997.tb00430.x
4. Whittington R, Higgins L. More than zero tolerance? Burnout and tolerance for patient aggression amongst mental health nurses in China and the UK. *Acta Psychiatrica Scand*. 2001;106:37-40.
5. Duxbury J, Pulsford D, Hadi M, Sykes S. Staff and patient views on the impact of aggression management training: a longitudinal study. *J Psychiatr Ment Health Nurs*. 2013;20(5):437-446.
6. Nijman H, Rector G. Crowding and aggression on inpatient psychiatric wards. *Psychiatr Serv*. 1999;50:830-831.
7. Trenoweth S. Perceiving risk in dangerous situations: Risks of violence among mental health inpatients. *J Adv Nurs*. 2003;42:278-287.
8. Firenze A, Santangelo OE, Gianfredi V, et al. Violence on doctors. An observational study in Northern Italy. *Med Lav*. 2020;111(1):46-53.
9. D.Lgs. 502/1992 "Riordino della disciplina in materia sanitaria, a norma dell'articolo 1 della legge 23 ottobre

- 1992, n. 421" (pubblicato il 30 dicembre 1992), integrato dal D.Lgs. 229/1999. Disponibile al sito <https://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto.legislativo:1992-12-30;502!vig=>
10. Abderhalden C, Needham I, Friedli TK, Poelmans J, Dassen T. Perception of aggression among psychiatric nurses in Switzerland. *Acta Psychiatr Scand.* 2002;106(Suppl 412):1107.
  11. Whittington R, Richter D. From the individual to the interpersonal: Environment and interaction in the escalation of violence in mental health settings. In Richter D, Whittington R, eds. *Violence in Mental Health Settings: Causes, Consequences, Management.* New York: Springer; 2006. p. 47-68.
  12. Edward KL, Ousey K, Warelow P, Lui S. Nursing and aggression in the workplace: a systematic review. *Br J Nurs.* 2014;23(12):653-4, 656-9.
  13. Maslach C, Schaufeli WB, Leiter MP. Job burnout. *Annu Rev Psychol.* 2001;52:397-422.
  14. Bowers L, Nijman H, Simpson A, Jones J. The relationship between leadership, teamworking, structure, burnout and attitude to patients on acute psychiatric wards. *Soc Psychiatry Psychiatr Epidemiol.* 2011;46(2):143-148.
  15. Alaerts K, Nackaerts E, Meyns P, Swinnen SP, Wenderoth N. Action and emotion recognition from point light displays: an investigation of gender differences. *PLoS One.* 2011;6:e2098.
  16. Blanch-Hartigan D. An effective training to increase accurate recognition of patient emotion cues. *Patient Educ Couns.* 2012;89:274-280.
  17. Price O, Baker J, Bee P, Lovell K. The influence of de-escalation training and environmental physical changes on inpatient aggression: a systematic review. *Aggress Behav.* 2018;44(1):4-23.

