Original article

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Burnout syndrome: a preliminary study of a population of nurses in italian prisons

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Abstract

Introduction. Burnout is a set of psychological manifestations ("emotional exhaustion", "depersonalization" and reduced "personal accomplishment") that principally affects healthcare professionals.

Objectives. Analysis of the level of burnout among twelve nurses who work in two Italian prisons.

Materials and Methods. The Maslach Burnout Inventory was administered. In order to explore possible correlations between the three dimensions of the Maslach Burnout Inventory and such variables as age, years of service in general and years of service in prisons, multiple regression based on the ordinary least squares method (OLS model) was performed.

Results. the response rate was 100%, of whom 66.6% female and 33.4% male. The average age is 38.1 years. Over half of the sample had worked from 0 to 10 years in prisons (58.4%), and only one respondent had done so between 21 and 30 years (8.3%).

The data indicate that the highest levels of burnout concerned the dimension of "depersonalization" (66.7%) and "personal accomplishment" (41.6%). Emotional exhaustion of nurses in carrying out their work diminished with the increase of the independent variable of "personal accomplishment" (p-value 0.0361); it increased with the increase of the age variable (p-value 0.0117). Personal accomplishment decreased with the increase of the independent variables of emotional exhaustion (p-value 0.0361) and years of service in prisons (p-value 0.0238). For depersonalization, no statistically significant coefficients were observed.

Model 1 of multiple regression showed a significant statistical association between the emotional exhaustion (dependent variable) and personal achievement (p-value 0.0361), and increase in age (p-value 0.0117). Model 2 showed significant statistical association between personal achievement (dependent variable) and emotional exhaustion (p=value 0.0361) and years of service nursing in prisons (p-value 0.0238). Model 3 showed no statistical association between depersonalization (dependent variable) and the other variables.

Conclusions. While twelve nurses formed this small sample, the study nonetheless indicated how the variables examined can influence the levels of burnout. Given that thorough inquiries into the levels of burnout among nurses who work in Italian prisons, specifically in the Marche Region, have yet to be conducted, this pilot study can serve as a point of reference for future research to improve evidence-based medicine. ***Clin Ter 2020; 171 (4):e304-309. doi: 10.7417/CT.2020.2233***

Key words: *public health, nursing work in prisons, burnout, prevention*

Introduction

The concept of burnout was first discussed in the 1970s, defined as a complex set of symptoms such as weariness, exhaustion and depression, principally related to the action of daily negative tension in difficult and particularly stressful work contexts (1).

As affirmed by the World Health Organization (WHO) a person's state of emotional and psychological well-being is fundamental for full use of one's cognitive or emotional capacities and for carrying out one's function in society (2).

Numerous researchers in this field assert that those who work in emotionally-draining social service and assistance fields (principally healthcare professionals) are more likely to have lower levels of professional satisfaction than workers in other fields (3,4). The Maslach Burnout Inventory (3) is one of the most commonly used instruments for evaluating burnout: over time, specific versions have been developed, such as the MBI-Educators Survey for teachers and the MBI-Human Services Survey for social and healthcare workers. An Italian version was developed by Italian researchers (5,6).

The burnout syndrome is typical of healthcare professions, above all physicians and nurses who work in extremely delicate environments (7,8), and is it not rare for professionals in other healthcare roles or among educators (9,10).

One of the greatest risk factors for work dissatisfaction, reduced performance, family problems and health issues is burnout, especially among nurses. In fact, high-turnover and burnout rates among nurses contribute to the insufficient number of these healthcare professionals in many parts of the world (11-14).

The typical physical and psychological symptoms of the syndrome can lead to debilitating disturbances such as stress and insomnia, headaches and dizziness, and even major depression (15-17).

This situation of dissatisfaction can also contribute to the adoption of unhealthy habits such as smoking, excessive drinking, or eating disorders, which in turn can lead to erratic or superficial behavior at work (18-26).

These attitudes can also be attributed to the stress provoked by some types of work activities (27-33).

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In Italy as in other industrialized nations, mental disturbances are a major cost and burden for the National Healthcare Service. They occur in all age classes, and are associated with difficulties in everyday activities, work, and interpersonal and family relationships, often leading to forms of indifference, marginalization and social exclusion. Often a healthcare worker's lack of respect for standards can be attributed to workplace stress or inadequate formation and personal knowledge (34,35).

In pharmaceutical or healthcare businesses, workers may exhibit superficial behavior, for example, improper conservation or handling of substances during the production of medicines or supplements (36-40). At times such behavior can be attributed to work-related stress, high levels of which have often been observed in these professions or related to poor lifestyle choices that can increase improper behaviour (41,42).

The direct and indirect costs related to burnout can be problematic. Treatment of burnout can incur significant expenses, and patients suffering from burnout may be less compliant in taking their medications. Burnout of staff can cause the overall efficiency of workplaces to suffer (12-14).

Turning now to the phenomenon of burnout among nurses in Italian prisons, it should be noted that since the reform law of 2008, which transferred responsibility for healthcare of prisoners from the Justice Ministry to the National Healthcare Service (43,44), nurses who work in prisons have seen a crucial passage in the organization of assistance. Looking more specifically at the Marche Region, there are seven prisons, with 900 prisoners, 40% of whom are foreigners and 25% of whom are drug addicts. They are served by 41 nurses. The prevalent pathologies are psychiatric, infective, dental and of the digestive tract in general.

Burnout among nurses who work in prisons has not been the subject of significant studies in the international literature (45). For this reason, it was deemed appropriate to study the problem specifically in some Italian prisons. This study observed a population of nurses who work in two Italian prisons, exploring the overall levels of burnout, as well as the three dimensions of the Maslach Burnout Inventory. Correlations with age, years of service in general and years of service in prisons were examined.

Materials and methods

The Italian version of the MBI questionnaire was administered to twelve nurses who voluntarily participated in the pilot study (5). Four worked in the Fermo prison and 8 in that of Marina del Tronto.

In the penitentiary care context of the Marche Region (DGR Marche Region 1220/2015 data, "Guidelines on how to provide health care in adult penitentiaries, implementation of regional and national health networks") 41 nurses carry out their professional activities. This pilot study involved 30% of the population of the Penitentiary Nurse of the Marche Region (12/41).

The MBI requested personal and organizational information, namely, age, gender, years of service in general and years of service in prisons, number of children, and marriage status.

The existence and rate of the functional link between the macro areas of the MBI (emotional exhaustion, depersonalization, and personal accomplishment) and the variables of age, years of service in general and years of service in prisons were defined using multiple regression based on ordinary least squares method (OLS model) according to the standard equation:

$$y_i = \alpha + \beta_i x_i' + \varepsilon_i$$

The objective of multiple regression is to explain *Y* (dependent variable) in function of *n* variables χ_1 (for i = 1, 2,…,5) (independent or explicative variables). The estimated coefficients of regression β_i represent the absolute constant variation of γ_1 caused by a unitary increase of the character χ_1. A positive β_i indicates that the relation is positive, while a negative β_i indicates that there is a negative or inverse relation, such that the increase of a variable is accompanied by a proportionate decrease of the other. The coefficient of determination R^2 indicates the "goodness" of the fit of the estimated model to the series of real data. This index is comprised between 0 and 1 and thus can be understood as a percentage expression. The greater the value of the index, the better the interpolation of the data provided by the regression model. The open-source Gretl software was used for statistical analysis of data.

Maslach Burnout Inventory: The MBI (5) questionnaire has been validated internationally. It contains 22 items that measure the three dimensions of burnout identified by Christina Maslach, the principal author: emotional exhaustion, depersonalization, and personal achievement (3). The subject must indicate the frequency and intensity with which the symptoms are experienced, and effects or specific moods connected with one's work. In order to avoid influencing the answers, the 22 items about the three dimensions are presented in a random pattern. The professional filling out the questionnaire assigns a value from 0 to 6 to express the frequency of the attitude or feeling: (0) never, (1) a few times a year or less, (2) once a month or less, (3) a few times a month, (4) once a week, (5) a few times a week, (6) every day. The sum of the values of the completed questionnaire, and the total for each group of items are recorded. As can be seen in Table 1, these sums indicate whether the respondent is experiencing a low, average or high level of burnout (3,4).

Table 1. MBI scores (3,4)

	Level of Burnout		
Dimension	Low	Average	High
Emotional exhaustion	≤14	15-23	≥24
Depersonalization	≤3	4-8	≥9
Personal achievement	≥37	30-36	≤29

Results

The response rate was 100% (12/12). As Table 2 indicates, 66.6% are female, and 33.3% male. The average age was 38.1 (23-53, SD 9.1), with the most significant age group

Table 2. characteristics of the study population

Characteristics of the sample	**%**	**N**
Gender		
Male	33.3%	4
Female	66.6%	8
Marriage status		
Married male	25%	1
Married female	50%	4
Unmarried male	75%	3
Unmarried female	50%	4
Age		
(20-29)	16.7%	2
(30-39)	41.6%	5
(40-49)	25%	3
≥ 50	16.6%	2
Years of service		
(0-10)	50%	6
(11-20)	41.7%	5
(21-30)	8.3%	1
≥ 30	0%	0
Year of service in prisons		
(0-10)	58.4%	7
(11-20)	33.3 %	4
(21-30)	8.3 %	1
≥ 30	0%	0
Children		
Yes	41.7%	5
No	58.3%	7

Table 3. Relationship between the sample and the subgroups according to the MBI (3,4)

	Levels of Burnout		
	Low	Average	High
Emotional exhaustion	83.3% (10)	16.6% (2)	-
Depersonalization	8.3% (1)	66.7% (8)	25.0% (3)
Personal achievement	33.3% (4)	41.6% (5)	25% (3)

that of 30-39. Half of the sample has worked in nursing from 0 to 10 years, 41.6% from 11 to 20, and the remaining 8.3% between 21 and 30 years. The average number of years is 11.1 (1-29, SD 8.5). Over half of the respondents had worked from 0 to 10 years in prisons (58.4%), and only one respondent had done so between 21 and 30 years (8.3%), (weighted average 9.2, 1-29, SD 8.9). The percentage of respondents with or without children was 41.7% and 58.35%, respectively.

General levels of burnout: Analyzing the data in general (Table 3), it emerges that the highest levels of burnout concern the dimensions of depersonalization and personal achievement, in which 66.7% and 41.6% respectively manifested average levels of burnout. The lowest levels of stress, with a percentage of 83.3%, were noted for the dimension of emotional exhaustion. No nurse indicated a high level of burnout for the emotional exhaustion dimension, while three nurses (25%) had the highest level of the syndrome in the dimensions of depersonalization and personal achievement.

Statistical analysis

Model 1: OLS. using observations 1-12
Dependent variable: **Emotional exhaustion**

	Coefficient	Std. error	T ratio	p-value	
const	2.31793	9.01998	0.2570	0.8058	
Depersonalization	–0.432001	0.356919	–1.210	0.2717	
Age	**1.00722**	0.281815	3.574	**0.0117**	**
Years of service total	–0.0443894	0.494163	–0.08983	0.9313	
Years of service in prisons	–0.999714	0.409904	–2.439	0.0505	*
Personal achievement	**–0.502006**	0.186645	–2.690	**0.0361**	**

Average for the dependent var.	10.08333	SQM var. dependent	5.632024
Sum residual quadr.	58.42876	S.E. of the regression	3.120597
R-square	**0.832542**	R-square corrected	0.692994
F (5. 6)	5.965991	P-value(F)	0.025210
Log-likelihood	–26.52467	Akaike criterion	65.04934
Schwarz criterion	67.95878	Hannan-Quinn	63.97217

Model 2: OLS, using observations 1-12
Dependent variable: **Personal achievement**

	Coefficient	Std. error	t ratio	p-value	
const	17.8004	11.2075	1.588	0.1633	
Emotional exhaustion	**–1.08888**	0.404845	–2.690	**0.0361**	**
Depersonalization	–0.965300	0.434151	–2.223	0.0679	*
Age	1.23608	0.533261	2.318	0.0596	*
Years of service total	0.314742	0.716856	0.4391	0.6760	
Years of service in prisons	**–1.61785**	0.538067	–3.007	**0.0238**	**

Average dependent var.	34.75000	SQM dependent var.	6.929843
Sum residual quadr.	126.7360	S.E. of the regression	4.595940
R-square	**0.760083**	R-square corrected	0.560153
F (5. 6)	3.801737	P-value (F)	0.067381
Log-likelihood	–31.17046	Akaike criterion	74.34092
Schwarz criterion	77.25036	Hannan-Quinn	73.26374

Model 3: OLS, using observations 1-12
Dependent variable: **Depersonalization**

	Coefficient	Std. error	t ratio	p-value	
const	4.88885	9.08365	0.5382	0.6098	
Age	0.852368	0.374464	2.276	0.0631	*
Years of service total	–0.133186	0.504158	–0.2642	0.8005	
Years of service in prisons	–0.757935	0.506062	–1.498	0.1849	
Personal achievement	–0.467973	0.210474	–2.223	0.0679	*
Emotional exhaustion	–0.454273	0.375320	–1.210	0.2717	

Average dependent var.	8.083333	SQM dependent var.	4.187825
Sum residual quadr.	61.44104	S.E. of the regression	3.200027
R-square	0.681515	R-square corrected	0.416111
F (5. 6)	2.567840	P-value(F)	0.141119
Log-likelihood	–26.82629	Akaike criterion	65.65258
Schwarz criterion	68.56202	Hannan-Quinn	64.57540

In Model 1 of multiple regression (R-square 0.83), the dependent variable of emotional exhaustion of the n^{th} nurse in carrying out work diminished with the increase of the independent variable of personal achievement (p-value 0.0361), while it increased with the increase in age (p-value 0.0117).

In Model 2 of multiple regression (R-square 0.76), the dependent variable of personal achievement reduced with the increase in the independent variable of emotional exhaustion (p=value 0.0361) and years of service nursing in prisons (p-value 0.0238).

In Model 3 (R-square 0.68), in which the dependent variable is depersonalization, no statistically significant coefficients are observed.

Conclusions

This work sought to valorize the strategic and functional work of a profession in continual evolution, also in such delicate and stressful environments as prisons. The information gathered in this pilot study calls for further inquiry in multicenter studies with bigger samples.

In conclusion, it can be said that the work models for healthcare professionals, which can often be more stressful than those of other professions, and can generate feelings of distress and deplete the worker's emotional resources, as reported by other Authors (46-48). The objective conditions and type of work carried out in prisons seem to create situations in which burnout syndrome can arise. This syndrome

in healthcare workers should not be taken lightly. Many factors associated with the onset of burnout can be modified, for example, the organization of shifts and responsibilities, and provision of support systems, in order to enhance the emotional stability of professionals whose work is characterized by strong emotional involvement.

Conflict of interest and ethical considerations

In line with Determination 618/DG of the 14/07/2017 "Regulation of the functioning of the Marche Region Ethics Committee (CER)", this study did not require the approval of an Ethics Committee. However, authorization was requested of the local agency of the national healthcare service. In respect of all the laws on privacy (Legislative Decree 196/2003) anonymity was guaranteed in the elaboration of the data. The authors did not receive any payment for this study and declare that there was no conflict of interest involved.

References

1. Freudenberger, Hebert. "Staff Burn-out", Journal of Social 1974; 30:159-165
2. Siracusa M, Grappasonni I, Petrelli F. The pharmaceutical care and the rejected constitutional reform: what might have been and what is. Acta Biomed. 2017 Oct 23; 88(3):352-359
3. Maslach C, Jackson S. "The Maslach Burnout Inventory", 1981. Consulting Psychologist Press, Palo Alto Ca.
4. Maslach C, Jackson S.E. (1996) Maslach Burnout InventoryManual. Consulting Psychologists Press Inc., Palo Alto, CA.
5. Sirigatti S, Stefanile C. Adattamento e taratura per l'Italia. In C. Maslach & S.Jackson, MBI Maslach Burnout Inventory. Manuale. Firenze: Organizzazioni Speciali. 1993; 33-42
6. Tomei G, et al. "L'evidenza scientifica in medicina del lavoro: studio meta-analitico sulla sindrome del burnout". Med Lav 2008; 99, 5: 00-00
7. Dorz S, et al. "La sindrome del burnout in operatori sanitari a contatto con malati di AIDS: variabili predittive". G Ital Med Lav Ergon 2004; 26:114-118
8. Alacacioglu A, et al. "Burnout in nurses and physicians working at an oncology department", Psycho-Oncology 2009; 18:543–548
9. Anderson VL, et al. "The effects of meditation on teacher perceived occupational stress, state and trait anxiety, and burnout". Sch Psychol Q 1999; 14:3-25
10. Shanafelt TD, et al. "Burnout and self-reported patient care in an internal medicine residency program". Ann Intern Med 2002; 136:358-367
11. Song R, et al. "Nurses job satisfaction, absenteeism, and turnover after implementing a special care unit practice model". Research in Nursing & Health 1997; 20:443–452
12. Persson L. "Nurse turnover with special reference to factors relating to nursing itself". Scandinavian Journal of Caring Science 1993; 7:29–36
13. Almost J, et al. "Exploring work-life issues in provincial corrections settings". J of Forensic Nursing. 2013 Jan-Mar; 9(1):3-13; quiz E1-2. doi: 10.1097/JFN.0b013e31827a56f3.
14. Flanagan NA, Flanagan TJ. "An analysis of the relationship between job satisfaction and job stress in correctional nurses". Res Nurs Health, 2002 Aug; 25(4):282-94
15. Ahola K, et al. "The relationship between job-related burnout and depressive disorders-results from the Finnish Health 2000 Study". J Affect Disord 2005; 88:55-62
16. Ekstedt M. "Disturbed sleep and fatigue in occupational burnout". Scand J Work Environ Health 2006; 32:121-131
17. Nadaoka T. et al. "Headache and stress in a group of nurses and government administrators in Japan". Headache 1997; 37:386-391
18. Spacilova L, Klusonova H, Petrelli F, et al. Substance use and knowledge among Italian high school students. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 2009; Jun;153(2):163-8
19. Siracusa M, Petrelli F. Trade of food supplement: food or drug supplement? Recenti Prog Med. 2016 Sep;107(9):465-471
20. Grappasonni I, Paci P, Mazzucchi F, et al. Awareness of health risks at the workplace and of risks of contracting communicable diseases including those related to food hygiene, among seafarers. Int Marit Health. 2012; 63(1):24-31
21. Scuri S, Petrelli F, Nguyen TTC, et al. Training to improve resilience and coping to monitor PTSD in rescue workers. J Prev Med Hyg. 2019 Mar 29; 60(1):E58-E63
22. Petrelli F, Contratti CM, Tanzi E, et al. Vaccine hesitancy, a public health problem. Ann Ig. 2018 Mar-Apr; 30(2):86-103
23. Carducci A, Fiore M, Azara A, et al. Environment and health: Risk perception and its determinants among Italian university students. Sci Total Environ. 2019 Nov 15; 691:1162-1172
24. Kračmarová L, Klusoňová H, Petrelli F, et al. Tobacco, alcohol and illegal substances: experiences and attitudes among Italian university students. Rev Assoc Med Bras (1992). 2011 Sep-Oct;57(5):523-8.
25. Petrelli F, Grappasonni I, Evangelista D, et al. Mental and physical effects of energy drinks consumption in an Italian young people group: a pilot study. J Prev Med Hyg. 2018; Mar 30; 59(1):E80-E87
26. Spáčilová L, Málková E, Hajská M, et al. Epidemiology of addictive substances: Comparison of Czech and Italian university students' experiencies. Chemicke Listy. 2007; 101 (14): s147-s150
27. Grappasonni I, Petrelli F, Traini E, et al. Psychological symptoms and quality of life among the population of L'Aquila's "new towns" after the 2009 earthquake. Epidem Biostat Pub Health. 2017; 14(2):e11690-1-13
28. Cannavò M, La Torre F, Sestili C, et al. Work Related Violence As A Predictor Of Stress And Correlated Disorders In Emergency Department Healthcare Professionals. Clin Ter. 2019 Mar-Apr; 170(2):e110-e123. doi: 10.7417/CT.2019.2120. PubMed PMID: 30993307.
29. Scuri S, Petrelli F, Tesauro M, et al. Energy drink consumption: a survey in high school students and associated psychological effects. J Prev Med Hyg. 2018 Mar 30; 59(1):E75-E79.
30. Petrelli F, Scuri S, Tanzi E, et al. Lifestyles and discomfort in a sample of young Romanian students. J Prev Med Hyg. 2018 Sep 28; 59(3):E230-E235
31. Scuri S, Petrelli F, Grappasonni I, et al. Food safety on board tankers. Results of analysis from 'Healthy Ship' project. Int Marit Health. 2019; 70(1):68-75
32. Petrelli F, Grappasonni I, Peroni A, et al. Survey about the potential effects of economic downturn on alcohol consum-

ption, smoking and quality of life in a sample of Central Italy population. Acta Biomed. 2018 Mar 27; 89(1):93-98
33. Scuri S, Tesauro M, Petrelli F, et al. Implications of modified food choices and food-related lifestyles following the economic crisis in the Marche Region of Italy. Ann Ig. 2018 Mar-Apr; 30(2):173-179
34. Petrelli F, Scuri S, Tanzi E, et al. Public health and burnout: a survey on lifestyle changes among workers in the healthcare sector. Acta Biomed 2018; 90(1): 24-30
35. Grappasonni I, Scuri S, Tanzi E, et al. The economic crisis and lifestyle changes: a survey on frequency of use of medications and of preventive and specialistic medical care, in the Marche Region (Italy). Acta Biomed 2018; 89(1):87-92
36. Nguyen CTT, Scuri S, Nguyen BT, Petrelli F, Grappasonni I. Levels of understanding of the rules of correct medical usage among vietnamese pharmacy students: a cross-sectional study. J Prev Med Hyg. 2018 Dec 15;59(4):E261-E266
37. Petrelli F, Caraffa A, Scuri S, et al. The requirements for manufacturing highly active or sensitising drugs comparing Good Manufacturing Practices. Acta Biomed. 2019 May 23; 90(2):288-299
38. Siracusa M, Scuri S, Grappasonni I, et al. Healthcare acquired infections: malpractice and litigation issues. Ann Ig. 2019 Sep-Oct;31(5):496-506
39. Grappasonni I, Petrelli F, Klusoňová H, et al. Level of understanding of medical terms among italian students. Ceska Slov Farm. Winter 2016; 65(6):216-220
40. Sestili M, Logrippo S, Cespi M, et al. Potentially Inappropriate Prescribing of Oral Solid Medications in Elderly Dysphagic Patients. Pharmaceutics. 2018 Dec 16; 10(4). pii: E280
41. Grappasonni I, Marconi D, Mazzucchi F, et al. Survey on food hygiene knowledge on board ships. Int Marit Health. 2013; 64(3):160-7
42. Grappasonni I, Petrelli F, Scuri S, et al. Knowledge and Attitudes on Food Hygiene among Food Services Staff on Board Ships. Ann Ig. 2018 Mar-Apr; 30(2):162-172
43. Decreto del Presidente del Consiglio dei Ministri, 1 Aprile 2008. "Modalità e criteri per il trasferimento al Servizio sanitario nazionale delle funzioni sanitarie, dei rapporti di lavoro, delle risorse finanziarie e delle attrezzature e beni strumentali in materia di sanità penitenziaria".
44. DGR Regione Marche 1220/2015, "Linee guida in materia di modalità di erogazione dell'assistenza sanitaria negli istituti penitenziari per adulti, implementazione delle reti sanitarie regionali e nazionali"
45. De Oliveira et al. "Burnout in nurse in Portuguese central prisons and type of employment contract". Medicina del Lavoro; 2014; 105, 3: 214-222
46. Cedrone F, Lungo F, Feliciangeli A, Muccino F, Greco E. The perception of psychosocial risks through the HSE questionnaire of a population of neurophysiology technicians: a cross-sectional study. Clin Ter. 2018 Nov-Dec;169(6):e281-e286. doi: 10.7417/CT.2018.2094. PubMed PMID: 30554249
47. Cinti ME, Cannavò M, Fioravanti M. Stress at work: development of the Stress Perception Questionnaire of Rome (SPQR), an ad hoc questionnaire for multidimensional assessment of work related stress. Clin Ter. 2018 May-Jun;169(3):e114-e119. doi: 10.7417/T.2018.2065. PubMed PMID: 29938743
48. Cannavò M, Fusaro N, Colaiuda F, et al. Violence on health care workers. Clin Ter. 2017 Mar-Apr;168(2):e99-e112. doi: 10.7417/CT.2017.1990. Italian. PubMed PMID: 28383621