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Personality factors in chronic headache: evaluation with SCL-90R

Abstract The psychopathological approach is fundamental in the study of chronic headache because it integrates the diagnosis of a pathology in which the symptom (headache) is the disease itself hiding in itself the deep message to decode. The Symptom Check List 90R (SCL-90R) is a scale of general evaluation of current psychopathology which can be self-administered by the patient. The scales of SCL-90R are correlated with those of the Minnesota Multiphasic Personality Inventory. Moreover the former test has the advantage of being shorter and more practical so it was chosen to be used in this study on chronic headache. The results showed that the psychopathological profile of chronic

headache patient is rather impaired in all the dimensions and indices measured by the test. No difference was found in the occurrence of psychopathological symptoms either between analgesic abusers and nonabusers, or among the three subtypes of chronic headache.

Key words SCL-90R •
Psychopathological symptoms •
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Introduction

The object of psychopathological investigation is to understand what human subjects experience in an event, to learn how they live through events, and to determine the dimensions of their psychic reality. The psychopathological investigation leads, therefore, to a close relation with a human being. The symptoms are signs, the meaning of which should be understood. The psychopathological approach is therefore fundamental in the study of chronic headache. It integrates the diagnosis of the only pathology in which the symptom (headache) is the disease itself, hiding in itself the deep message to decode. After the hierarchical diagnosis, the clinical surveying of the headache patient can be completed with a free talk, with a more or less structured inter-

view or with standardised tools. The rating scales are simple and practical methods to classify and assess clinical symptoms according to standardised parameters. There are two types of rating scales which evaluate psychopathological symptoms: the first type provides a global assessment based on a severity standard and the second type produces an analytical assessment exploring each area, screening for the presence of symptoms and behaviours and grading their severity. The Symptom Check List 90R (SCL-90R) [1] is a scale of general evaluation of current psychopathology which can be self-administered by the patients themselves. The scales of SCL-90R correlate with those of the Minnesota Multiphasic Personality Inventory [2]. Moreover, the former have the advantage of being shorter and more practical. Therefore, the SCL-90R was chosen to be used in this study on chronic headache.

Patients and methods

A total of 220 patients, including 171 women (age 43.84 ± 12.77 years) and 49 men (age 39.14 ± 13.09 years) suffering from primary headache for at least 15 days per month for at least 6 months and referred to nine Italian headache centres were included. Exclusion criteria were: diagnosis of chronic cluster headache, chronic paroxysmal hemicrania, hemicrania continua, chronic post-traumatic headache; diagnosis of schizophrenia or other psychotic disorders; and cognitive deficit which could impair the cooperation of the patients. The demographic characteristics of the population are given in Table 1.

The Symptom Check List 90R (SCL-90R) is a 90-item self-report symptom inventory designed to evaluate psychological symptoms patterns of psychiatric and medical patients. Each item is rated on a 5-point scale of severity ranging from "not at all" to "a lot". The test yields nine dimensions: somatization (SOM), obsessive-compulsive attitude (OC), interpersonal sensitivity (IS), depression (DEP), anxiety (ANX), hostility (HOS), phobic anxiety (PHOB), paranoid ideation (PAR) and psychoticism (PSY). The test also provides three global indices: the global severity index (GSI) which represents the best single indicator of the current level of the disorder, the positive symptoms distress index (PSDI) which is a measure of the patient's response style since it reflects the overestimation or underestimation of symptoms, and the positive symptoms total (PST) which is simply a count of the number of symptoms referred by the patient without considering their degree. Scale values are based on standardized T-scores derived from the comparison of raw scores with normative samples scores.

The statistical analysis was based on chi-square test for categorical data. Moreover, Pearson's test was applied to reveal possible correlations between each SCL-90R parameter and some clinical characteristics of headache.

Results

Analysis of the mean SCL-90R profile of headache patients in comparison with the normal profile shows that in the former all the dimensions and indices were > 60 except for hostility (Fig. 1). When examining the occurrence of patients with a T-score > 60 , a significant difference was found between sexes concerning somatization (123 cases (71.90%) in women vs. 25 (51.02%) in men, $p < 0.05$). No difference was found between sexes when considering the remaining dimensions and the three global indices (Table 2).

The prevalence of patients with a T-score > 60 did not reveal any significant difference between abusers and nonabusers (Table 3). Comparison among the three subtypes of chronic headache sufferers also did not show any statistical difference (Table 4).

A positive correlation was found between somatization T-scores and patients' age, and between somatization T-scores and age at chronic headache onset (Table 5). The positive symptoms of distress index (PSDI) was positively correlated to chronic headache duration.

Table 1 Demographic characteristics of the sample. Values in parentheses are standard deviations

	Men (n = 171)	Women (n = 49)	Total (n = 220)
Mean age, years	43.8 (12.8)	39.2 (13.1)	42.8 (12.9)
Education, years	10.2 (3.8)	12.1 (3.8)	10.7 (3.8)
Mean age at headache onset, years	19.9 (9.8)	21.7 (11.1)	20.3 (10.1)
Mean age at chronic headache onset, years	36.6 (12.3)	34.3 (13.8)	36.1 (12.6)
Mean headache duration, years	23.9 (13.7)	17.4 (13.6)	22.5 (13.9)
Mean chronic headache duration, years	7.2 (7.1)	4.8 (5.6)	6.7 (6.9)

Table 2 Prevalence of patients with a T-score > 60 in SCL-90R parameters: comparison between 171 women and 49 men

SCL-90R scale	Women, n (%)	Men, n (%)
SOM	123 (71.90)	25 (51.02)*
OC	110 (64.30)	27 (55.10)
IS	99 (57.90)	26 (53.06)
DEP	103 (44.89)	22 (60.23)
ANX	109 (63.74)	27 (55.10)
HOS	101 (42.85)	21 (59.06)
PHOB	111 (65.30)	32 (64.91)
PAR	104 (60.80)	27 (55.10)
PSY	105 (51.02)	25 (61.40)
GSI	145 (84.79)	39 (79.60)
PSDI	142 (83.04)	40 (81.60)
PST	149 (87.13)	37 (75.51)

* $p < 0.01$, men vs. women

Table 3 Prevalence of patients with a T-score > 60 in SCL-90R parameters: comparison between 141 abusers and 79 nonabusers^a

SCL-90R scale	Abusers, n (%)	Nonabusers, n (%)
SOM	94 (66.70)	54 (68.3)
OC	90 (63.80)	47 (59.5)
IS	80 (56.70)	45 (56.9)
DEP	80 (56.70)	45 (56.9)
ANX	87 (61.70)	49 (62.0)
HOS	78 (55.30)	44 (55.7)
PHOB	94 (66.70)	49 (62.0)
PAR	86 (60.90)	45 (56.9)
PSY	86 (60.90)	44 (55.5)
GSI	116 (82.30)	68 (86.0)
PSDI	117 (82.90)	65 (82.3)
PST	120 (85.10)	66 (83.5)

^a All comparison are not significant

Table 4 Prevalence of patients with a T-score > 60 in SCL-90 parameters: comparison among the three subtypes of chronic headache patients^a

SCL-90R scale	Chronic migraine n (%) ^b	Chronic tension-type headache n (%) ^c	Chronic migraine and tension-type headache n (%) ^d
SOM	46 (67.6)	36 (69.2)	66 (66.0)
OC	40 (58.8)	31 (59.6)	66 (66.0)
IS	36 (52.9)	29 (55.8)	60 (60.0)
DEP	38 (55.9)	30 (57.7)	57 (57.0)
ANX	43 (63.2)	36 (69.2)	57 (57.0)
HOS	40 (58.8)	31 (59.6)	51 (51.0)
PHOB	43 (63.2)	30 (57.7)	70 (70.0)
PAR	42 (61.8)	34 (65.4)	55 (55.0)
PSY	40 (58.8)	33 (63.4)	57 (57.0)
GSI	57 (83.8)	46 (88.4)	81 (81.0)
PSDI	58 (85.3)	42 (80.8)	82 (82.0)
PST	57 (83.8)	47 (90.4)	82 (82.0)

^a All comparisons are not significant

^b Percent of 68 patients

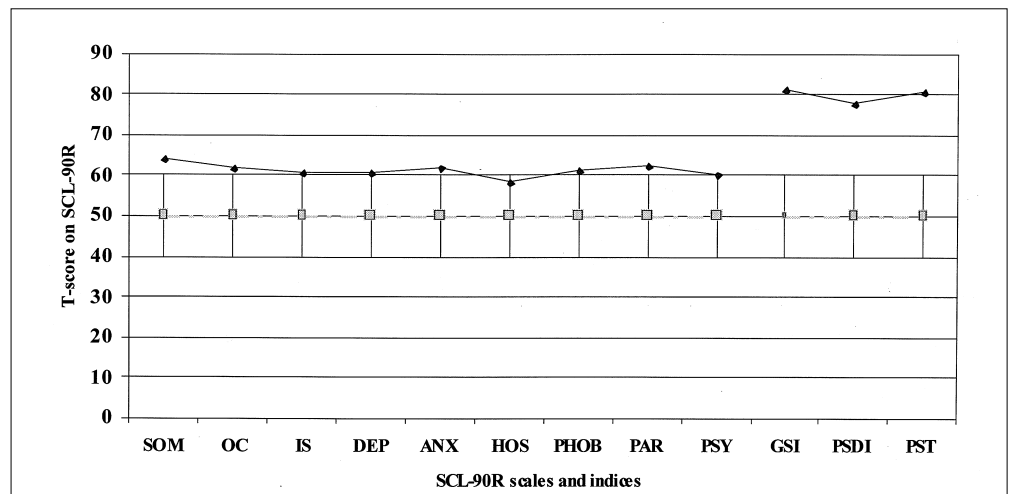
^c Percent of 52 patients

^d Percent of 100 patients

Table 5 Bivariate correlation between each SCL-90R parameter and headache characteristics: patient's age at observation time, age at headache onset, age at chronic headache onset, chronic headache duration and total headache duration

SCL-90R scale	Age		Age at headache onset		Age at chronic headache onset		Chronic headache duration		Headache duration	
	R	<i>p</i>	R	<i>p</i>	R	<i>p</i>	R	<i>p</i>	R	<i>p</i>
SOM	0.14	0.03	0.12	0.06	0.15	0.03	-0.05	0.94	0.04	0.53
OC	0.07	0.27	0.05	0.37	0.11	0.08	0.001	0.98	0.02	0.7
IS	0.04	0.54	0.04	0.55	0.03	0.60	0.01	0.83	0.009	0.88
DEP	0.05	0.44	0.08	0.20	0.081	0.22	-0.05	0.43	-0.01	0.83
ANX	0.09	0.16	0.07	0.25	0.11	0.08	-0.03	0.56	0.03	0.64
HOS	-0.05	0.38	0.07	0.23	-0.03	0.62	-0.04	0.57	-0.11	0.09
PHOB	0.04	0.52	0.08	0.21	0.08	0.22	-0.06	0.30	0.06	0.33
PAR	-0.02	0.66	0.11	0.09	-0.02	0.70	-0.009	0.89	-0.11	0.10
PSY	-0.078	0.90	0.12	0.07	-0.09	0.88	0.003	0.96	-0.09	0.15
GSI	0.01	0.87	0.06	0.92	-0.07	0.25	0.03	0.61	0.005	0.93
PSDI	0.01	0.86	-0.07	0.26	-0.07	0.25	0.16	0.01	0.06	0.33
PST	0.007	0.90	0.02	0.67	-0.0007	0.99	0.01	0.81	-0.01	0.84

Fig. 1 Symptom Check List 90R profile for 220 chronic headache patients (◆) compared to the normal profile (□). *SOM*, somatization; *OC*, obsessive-compulsive attitude; *IS*, interpersonal sensitivity; *DEP*, depression; *ANX*, anxiety; *HOS*, hostility; *PHOB*, phobic anxiety; *PAR*, paranoid ideation; *PSY*, psychoticism; *GSI*, global severity index; *PSDI*, positive symptoms distress index; *PSI*, positive symptoms total



Discussion

This study showed that the psychopathological profile of chronic headache patients is impaired in all the dimensions and indices measured by the test. These results are in agreement with a previous study by Puca and co-workers [2] with the same methods on a sample of 540 chronic headache patients. No difference was found in the occurrence of psychopathological symptoms either between sex or between analgesic abusers and nonabusers, or among the three subtypes of chronic headaches. Therefore, we can suppose that the subtype of headache and drug abuse act as independent factors in the evolution from an episodic to a chronic headache. An important result is represented by the positive correlation between somatization and patients' age and between somatization and chronic headache onset, which suggest that the way of living and expressing pain may change as the age increases. The positive correlation between chronic headache duration and PSDI demonstrates that when chronic headache lasts too long, the patients tend to overestimate the symptoms. This evidence

demonstrates that SCL-90R is a useful tool for a complete evaluation of chronic headache subjects.

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