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The personality profile and alexithymic syndrome in primary headache: a Rorschach study

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Abstract The aim our work was to study the personality profile and alexithymic syndrome (based on the analysis of seven specific markers) of primary headache patients through the Rorschach test. 240 headache patients all drawn from Headache Centre of Neurological Science Institute of the Second University of Naples, in the period 1995–1998, were the sample studied. 30 (6 women) were affected by cluster headache; 32 (22 women) by migraine with aura; 112 (88 women) by migraine without aura; 66 (32 women) by tension-type headache. 60 subjects (34 women) formed the control group. There was no significant difference ($p>0.05$) between groups for age and education, and to all subjects the tests were administered in interval periods by two different examiners. All patients with organic illness or known psychiatric illness were excluded by the present study. The results obtained have been transformed into numeric terms and then into data to be utilized for frequency index, description and statistical analysis (t test). The results show an uniformity of alexithymic characteristics in various headache groups, with a short margin of variability. Besides, the headache patients showed a marked restriction in fantasy, with concrete and stereotypic thought, poor adaptive emo-

tional responsiveness, and lack of relational mechanisms and adaptability to milieu. The analysis of the results supports the following observations: (1) despite of little differences in some specific parameters or personality sectors, headache subjects appear to be quite homogeneous in perceptual and processing style, affectivity and adaptive resources; (2) these data are similar to what has been found in psychosomatic illness; (3) independently of neuropsychological, neuroanatomical and functional substratum of these behaviours, a psychotherapeutic approach to headache can be useful in addition to common pharmacological therapy; and (4) data expressed by the analysis of Rorschach parameters certainly exclude an analytical-type psychotherapeutic approach, on the contrary, behavioural approach techniques appear to be more useful in that they facilitate and improve experience control and self-regulation.

Key words Headache • Personality • Alexithymia • Rorschach

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Introduction

A number of studies have analysed the relationship between personality organisation and physical diseases. These studies gave good results regarding psychosomatic diseases but they were largely inconclusive in finding a precise correlation between psychosomatic troubles and personality [1, 2]. However, in 1957, Ruesch [3] observed in patients with psychosomatic illness: “A decrease in verbal and abstractive capacity, with a primitive, unimaginative and strongly stereotypic thought”. In other words, these patients show an impoverishment of fantasy and symbolic functions and the inability to express experiences, feelings and emotions. These leads to a limited and stereotypic cognitive style, defined by many authors as “alexithymia” [4–7].

Although the concept of alexithymia has been largely accepted as theoretical construct, many studies criticised the empirical measurement of alexithymia, particularly the use of various psychiatric scales without homogeneous results [4, 8–10], as well as comparisons between psychosomatic and normal groups. These comparisons could not highlight peculiar features in various psychosomatic subgroups and in groups with chronic pain [11].

In order to overcome these criticisms, some authors [1, 11–13] suggested using the Rorschach test for psychosomatic groups, pointing out some effects of this test in these patients: (1) a small number of responses; (2) few movements and in general few human responses; (3) few colour responses; and (4) coarctation of the experience balance. In particular, Acklin and Alexander [11] assumed some specific variables in subjects with psychosomatic illness.

The researchers cited above generally used the Rorschach test in the study of psychosomatic diseases. None used this test for primary headache, in its various subgroups, usually considered in the same way as psychosomatic illness. Personality of headache patients has always been studied through the constant use of scales for psychiatric evaluation [10, 14, 15]; nevertheless, these studies were always scarcely homogeneous and not comparable because of variability of scales.

Headache patients generally have in common a deep sense of duty, tendency to take on responsibility and to sacrifice, efficiency and ability to socialise [16, 17].

Since recent literature lacks in studies concerning the Rorschach test, we have proposed a study on personality of headache patients through the Rorschach test. As previously seen, this test has been used in the study of subjects with psychosomatic illness [11]. Table 1 illustrates some variables we used as reference parameters also for the evaluation of headache patients, supposing a similarity between headache and psychosomatic illness.

In our study we divided patients into four groups: (1) cluster headache; (2) migraine without aura; (3) migraine with aura; and (4) tension headache. Another group com-

prised control subjects. So, our purpose was to determine whether:

1. Headache patients as a whole have a peculiar profile on some Rorschach parameters, which is different from normal subjects and similar to typical profile of alexithymia (Table 1), as can be seen in subjects with psychosomatic diseases;
2. The four groups show peculiar differences in Rorschach parameters of alexithymia;
3. Headache patients of single subgroups exhibit a personality which can be analysed through some variables of the test, such as:
 - a) affective disorders: depression index;
 - b) dysphoria;
 - c) problem-solving style: introversive or oriented to reflection, extroversive and impulsive, or ambivalent and indecisive with coping style;
 - d) affective behaviour: controlled, few controlled;
 - e) perceptual processing style: careful, methodical or confused;
 - f) perceptual accuracy: index of conventionality.

Materials and methods

In order to identify different kinds of personality for the different forms of headache, in the period 1995–1998, 240 patients (Table 2) – all drawn from Headache Centre of Neurological Science Institute of the Second University of Naples – received the Rorschach test. For all of them diagnosis was made according to criteria of the International Headache Society (IHS ‘88) [18]. All patients had been suffering from headache for two years at admission to the study. In addition, we studied a group of 60 healthy controls.

No significant differences ($p < 0.05$) were found as regards years of age and education (Table 2).

In this study we did not use further psychometric tests because we were only interested in Rorschach data.

Rorschach test

We used the codified scoring of the Rorschach Roman School [19]. We excluded protocols containing a number of responses lower than 10. The Rorschach test had never been given to any of the patients. It was administered by two different examiners at a random sampling. Scoring was done by both examiners for each protocol so as to homogenise results as much as possible. None of the examiners knew the clinical diagnosis of surveyed patients.

The following Rorschach indices (Table 1) were taken into account (individual indices must be explained and considered in comparison with other indices; what is more, even if the same indices can be explained in other ways – such as through the study results and literature data, as well as through the indication of Roman School Rorschach – we preferred to analyse the indices by comparing them to the alexithymia concept):

Table 1 Rorschach alexithymia variables (From [10] with permission)

Function	Variables
Fantasy	Low response productivity (R) Low human movement percepts (M)
Affect	Restricted affective response (low weighted sum C) Poorly adapted affect (low FC)
Cognition-perception	Concrete cognition (low blends) Perceptual stereotype (high lambda)
Adaptive resources	Deficient ideational and affective assets (low EA)

Table 2 Characteristics of the patients and controls

	Controls (n=60)	CH (n=30)	MA (n=32)	MwA (n=112)	TTH (n=66)
Age, years ^a	34.3 (7.9)	35.0 (8.2)	34.0 (13.3)	31.0 (13.1)	34.8 (9.2)
Education, years ^a	12.5 (3.1)	12.0 (3.2)	11.9 (2.1)	13.5 (2.7)	12.9 (2.2)
Males, n (%)	26 (43)	24 (80)	10 (31)	24 (21)	34 (52)

^a Values are mean (SD). *CH*, cluster headache; *MA*, migraine with aura; *MwA*, migraine without aura; *TTH*, tension-type headache

1. Number of responses and M%, indicating fantasy
2. Totality of colour responses and FC, indicative of concrete and stereotypic cognition
3. D% and stereotypes of high lambda contents (F%), indicating perception and concrete and stereotypic cognition
4. Adaptation index (M and C values), assessing adaptive resources
5. H%, detecting ability for human relationship
6. Anat. %, revealing a tendency to hypochondria
7. High A% and Bot% with low M, indicating strong tendency to affective regression
8. Red, dark and colour shock, indicating specific anxieties
9. Affective disorders: a) depression indices: low R, high D%, high F%, low H%, forced TRI; b) dysphoria: Clob%
10. TRI, indicating problem-solving style (introversive and oriented to reflection, extroversive, or ambivalent)
11. F+%, M, G%, expressive of affect management
12. Way of understanding, indicating processing style (synthetic/analytical)
13. IR and V%, expressing accuracy and reality adaptation.

The first four points show alexithymia indices. Results have been recorded and transformed into numerical terms and then in data to be used for frequency and statistical description. Data have been compared with values for the control subjects group. They were submitted to a crossed statistical comparison according to the *t* test.

Results

Our results (see Tables 3, 4, 5) confirm the utility of the Rorschach test in the examination of personality and what is more, they confirm the hypothesis that headache subjects as a whole have a profile of the 7 Rorschach indices (R, M,

weighted sum C, FC, stereotypy, F%, IA) typical of alexithymia (Table 3), even if these indices, when considered individually and not as a whole, can be found in other psychiatric pathologies (i.e. depression).

Headache patients could be therefore alexithymic patients like subjects with psychosomatic illness [10]. As already supposed, this suggests a similarity between headache, in its various forms, and psychosomatic illness. In addition, results show an uniformity of alexithymic characteristics in various headache groups, with a short margin of variability.

So, headache patients show a marked restriction in fantasy, with a concrete and stereotypic thought, a poor adaptive emotional responsiveness, a lack of relational mechanisms and adaptability to milieu. In particular, tension headache patients exhibit deficits in conceptual and abstract elaboration and mainly in stereotypic cognition, whereas cluster headache subjects show more difficulties in affectivity and adaptive resources. Tension headache patients show poor adaptive and affective resources, whereas headache without aura subjects are less deficient in this field. In sum, even if with little differences, tension headache patients are more alexithymic than other headache groups.

In the third part of our study, we investigated personality differences between the various headache groups, as revealed in clusters of selected Rorschach variables.

All groups show evidence of depression and inhibition of affectivity (depression index), with no significant differences between groups.

On the other hand, our findings exclude dysphoretic disorders or dysphoretic “feeling” for which an aid is requested (cephalea).

Table 3 Results on the Rorschach test for alexithymia variables. Values are means (SD)

Rorschach variables	CTRL	CH	MA	MwA	TTH
Fantasy					
R	25.2 (5.6)	15.6 (3.4)	10.52 (3.4)	13.63 (2.96)	13.05 (3.75)
M	2.0 (0.66)	0.83 (0.25)	0.86 (0.40)	0.94 (0.61)	0.50 (0.53)
Affect					
Sum C	2.0 (0.8)	0.8 (0.32)	0.93 (0.58)	1.18 (1.1)	1.2 (1.3)
FC	2.5 (0.58)	0.45 (0.16)	0.62 (0.24)	0.62 (0.8)	0.91 (0.64)
Cognition-perception					
Blends	1.0 (0.38)	0.1 (0.02)	0.31 (0.16)	0.22 (0.37)	0.2 (0.18)
Lambda	0.8 (0.4)	1.16 (0.6)	1.09 (0.46)	2.02 (3.05)	3.52 (2.4)
Adaptive-resources					
EA	6.2 (2.4)	1.92 (0.86)	1.79 (0.84)	2.17 (1.56)	1.7 (1.4)

Comparison of control subjects with headache subgroups and of each subgroups with other. *CTRL*, controls; *CH*, cluster headache; *MA* migraine with aura; *MwA*, migraine without aura; *TTH*, tension-type headache

Table 4 Results on the Rorschach test

	CTRL	CH	MA	MwA	TTH
R	25.2 (5.6)	15.6 (3.4)	10.52 (2.96)	13.63 (2.96)	13.05 (3.75)
MdC*	1.0 (0.38)	0.1 (0.02)	0.31 (0.16)	0.22 (0.37)	0.2 (0.18)
F (%)	68.52(8.28)	70.5 (12.79)	65.77 (13.8)	62.45 (13.5)	65.8 (21.96)
I Form (M)	2.0 (0.66)	0.83 (0.25)	0.86 (0.4)	0.94 (0.61)	0.5 (0.53)
I Form (C)	5.0 (1.8)	0.8 (0.32)	0.93 (0.58)	1.18 (1.1)	1.2 (1.3)
II Form (Mi)	2 (0.5)	0.83 (1.17)	0.29 (0.49)	1.41 (1)	1.4 (1.07)
II Form (Clob)	2 (0.5)	1.5 (1.38)	1.14 (1.35)	1.38 (1.22)	1.35 (0.82)
FC	2.62 (0.58)	0.45 (0.16)	0.62 (0.24)	0.62 (0.8)	0.91 (0.64)
F + %	7.32(12.13)	65.0 (14.32)	71.1 (10.24)	63.67 (9.46)	62.7 (14.03)
I. A.	6.2 (2.4)	1.92 (0.86)	1.79 (0.84)	2.17 (1.56)	1.7 (1.4)
Stereotypia	0.8 (0.4)	1.16 (0.6)	1.09 (0.46)	2.02 (3.05)	3.52 (2.4)
H (%)	30.1 (6.8)	12.5 (24.59)	10.38 (9.67)	15.38 (12.8)	13.05 (10.2)
A (%)	50 (10.5)	12.05 (11.1)	44.46 (17.7)	51.84 (19.8)	56.5 (21.13)
Anat (%)	10 (3.65)	21 (17.29)	10.38 (10.1)	6.72 (6.79)	8.64 (9.34)
BOT (%)	20.02 (2.7)	4.5 (5.99)	2.31 (5.99)	3.47 (4.62)	4.29 (6.76)
V (%)	35.6 (5.8)	20 (5.77)	24.17 (14.4)	24.19 (9.58)	21.2 (8.56)
O (%)	25.3 (5.69)	5 (6.67)	0.42 (1.44)	0.65 (2.5)	1.43 (4.78)
I.R.	6.5 (1.62)	4.4 (1.58)	5.14 (1.46)	4.22 (0.83)	5 (0.89)
Shock	Absent	Present	Present	Present	Present

*G = 0; D, dD = 1; *CTRL*, controls; *CH*, cluster headache; *MA* migraine with aura; *MwA*, migraine without aura; *TTH*, tension-type headache

Table 5 Comparison of control subjects group with various headache subgroups and of each subgroup with other subgroups

	Control subjects group/various headache subgroups				Headache subgroups/other headache subgroups						
	CTRL/CH	CTRL/MA	CTRL/MwA	CTRL/TTH	CH/MA	CH/MwA	CH/TTH	MA/MwA	MA/TTH	MwA/TTH	
R	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.002	< 0.001	0.001	0.255	
MdC	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.079	0.003	0.183	0.004	0.682	
F (%)	0.378	0.235	0.002	0.368	0.168	0.024	0.279	0.577	0.994	0.209	
I Form (M)	< 0.001	< 0.001	< 0.001	< 0.001	0.727	0.337	0.002	0.486	< 0.001	< 0.001	
I Form (C)	< 0.001	< 0.001	< 0.001	< 0.001	0.283	0.064	0.101	0.219	0.266	0.913	
II Form (Mi)	< 0.001	< 0.001	< 0.001	< 0.001	0.02	0.007	0.021	< 0.001	0.018	0.950	
II Form (Clob)	< 0.001	< 0.001	< 0.001	< 0.001	0.303	0.643	0.508	0.340	0.342	0.859	
FC	< 0.001	< 0.001	< 0.001	< 0.001	0.02	0.250	< 0.001	1.000	0.015	0.013	
F + %	< 0.001	< 0.001	< 0.001	< 0.001	0.057	0.545	0.461	< 0.001	0.003	0.583	
I. A.	< 0.001	< 0.001	< 0.001	< 0.001	0.549	0.401	0.429	0.188	0.738	0.045	
Stereotopia	0.001	0.007	0.002	< 0.001	0.607	0.128	< 0.001	0.089	< 0.001	< 0.001	
H (%)	< 0.001	< 0.001	< 0.001	< 0.001	0.653	0.382	0.877	0.042	0.220	0.209	
A (%)	< 0.001	0.063	0.503	0.033	< 0.001	< 0.001	< 0.001	0.059	0.006*	0.141	
Anat (%)	< 0.001	0.794	< 0.001	0.293	0.004	< 0.001	< 0.001	0.018	0.402	0.116	
BOT (%)	< 0.001	< 0.001	< 0.001	< 0.001	0.155	0.312	0.884	0.244	0.162	0.339	
V (%)	< 0.001	< 0.001	< 0.001	< 0.001	0.145	0.024	0.524	0.993	0.205	0.038	
O (%)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.004	0.620	0.246	0.155	
I. R.	< 0.001	< 0.001	< 0.001	< 0.001	0.060	0.397	0.02	< 0.001	0.558	< 0.001	
Shock	< 0.001	< 0.001	< 0.001	< 0.001	-	-	-	-	-	-	

High frequency of ambitendency (problem solving style) in cluster headache groups and in migraine with or without aura groups indicate a strong decrement of efficiency and vacillation and ambitendency in problem-solving and decision-making processes, with the subsequent risk to avoid making decision and to have a severe “failure” both in conceptual expression and in behaviour and affectivity. This leads to an incapacity to adapt responses to stimulus and to take on responsibility, as well as to an inhibited sense of duty.

On the contrary, tension headache patients exhibit tendency to an immediate response, scarcely oriented to reflection, more typical of a “randomly” processing style (extratensive), oriented to trial and error problem solving.

All groups show difficulties in affect management with evident coarctation and decrements in adaptive resources. Moreover, all groups – mainly cluster headache subjects – exhibit an affective regression (bot, M, A), with typically infantile way of relation. This provokes disorders in self-representation, as well as marked disturbances in interpersonal contact, deficient in empathic values and identification that social life requires. These data are more evident in migraine with aura group than in others, even if with nearly insignificant differences. Unlike old data described in literature, low H% in all groups confirm that headache subjects exhibit an incapacity to socialize which is similar to affective coarctation. In this sense migraine with aura group seems to be more compromised than other groups, even if with little difference.

Also for affective inhibiting interference, reflection processes are concrete, simple, analytical (D%) and stereotypic in all groups – with the exception of cluster headache group, showing a stronger trend to conceptual variability – and they are more evident in tension headache subjects.

By contrast, cluster headache group exhibit a significant decrement in perceptual accuracy (that is the ability to evaluate perception in an adequate way), whereas other groups show a better perceptual accuracy, even though lower than normal.

The capacity for rational control on affectivity is low in all groups – that is typical of a perceptual, mental, stereotypic reflection style – especially in tension headache group.

Hypochondriac tendency is particularly evident in cluster headache group, whereas it is absent in the other groups.

Finally, all groups exhibit nuclei of neurotic distress, predominantly phobic-type (red and dark shock), with free anxiety (colour). They can be found especially in migraine with aura group, showing deficits in phallic aggression and decision-making processes. This distress affects both personal and sexual and libidinal aggression.

On the contrary, cluster headache subjects show a prevalence of association between dark and colour shock, with low red shock, indicating bare distress for unknown. It may be expresses more interior struggle with authority and secondary disorders deriving from this struggle: sin, judgement, rebellion and anguish.

Discussion and conclusion

Our study supports the hypothesis that the various kinds of headache can be associated with psychosomatic diseases, in that they have a similar Rorschach profile which – for its characteristics – is typical of alexithymia, as indicated in the work on psychosomatic disorders, which is the reference point of our study [11]. According to these parameters headache patients are conceptually poor, with strong deficits in imaginative and symbolic functions, in affective and empathic capacity and in socialisation. What is more, they exhibit difficulties in adaptive resources and decision-making capacity and they show to be rigorous, ambivalent, nearly obsessive. Among all groups, tension headache group is the most similar to alexithimic syndrome, although various subgroups are quite homogeneous in Rorschach profile without significant differences in relation to alexithymia parameters as well as to other studied Rorschach parameters.

All groups present a depression nucleus and a neurotic distress nucleus. Headache with aura group has more phobic elements, whereas cluster headache group exhibit free anxiety.

Relation with reality is rigid, stereotypic, almost obsessive, with the exception of tension headache subjects, who show a trend to immediate, not filtered, impulsive response, but are always deficient in conceptual and imagine contents.

Only cluster headache group present a trend to conceptual variability, even if limited in comparison with normal values. All groups – especially cluster headache group – homogeneously exhibit deficiency in affectivity and adaptive resources, social contact, identification, responsibility and decision-making and marked difficulties in adaptation and reality testing. Frequent hypochondriac disorders, as well, have been found in cluster headache group.

These findings support the following observations:

1. Despite little differences in some specific parameters or personality sectors, headache subjects appear to be quite homogeneous in perceptual and processing styles, affectivity and adaptive resources.
2. These data are similar to what has been found in psychosomatic illness.
3. Independently on neuropsychological, neuroanatomical and functional substratums of these behaviours, a psychotherapeutic approach to headache can be useful in addition to common pharmacological therapy.
4. Data expressed by the analysis of Rorschach parameters certainly exclude an analytical-type psychotherapeutic approach (it is well-known that psychosomatic subjects can hardly be treated with psychoanalytic therapy). In fact, in headache patients mental symbolism and capacity to express feelings and emotion in interpersonal contacts are underdeveloped, which makes an analytical approach impossible, requiring conceptual capacity and rich affective and emotional experience. On the contrary,

behavioural approach techniques appear to be more useful in that they facilitate and improve experience control and self-regulation. These techniques generally help a patient to learn, recognise, interpret, and organise his or her feelings. In Rorschach terminology, they are aimed to

increase the number of human movement responses, the quality of colour responses (> FC) and to increase adaptive resources (M + C), as well as to recognise and overcome conflictual situations, to develop problem anticipation and problem-solving strategies.

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