

Evaluation of the burden management in a psychiatric day center: distress and recovery style

Valutazione del carico gestionale in un centro diurno psichiatrico: gravosità e recovery style

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SUMMARY. Aim. In psychiatric rehabilitation the individual treatment plan can be formulated from tools that provide a multidimensional assessment of the patient. This study aims to analyze the relationship between distress and recovery style (integration and sealing over) from the psychosis. Assuming that this relationship affects the burden management, the study has the additional target of gaining more elements to direct the formulation of more effective therapeutic / rehabilitation programs. **Methods.** The study was carried out in a psychiatric day center, semi-residential structure of mental health services of the National Health System in Italy. 45 patients enrolled have been evaluated by the Neuropsychiatric Inventory (NPI - Italian version) and Integration / Sealing Over Scale (ISOS - Italian version), within three months (March-June 2014). **Results.** In the sample, the symptoms which cause a greater distress in the health workers, in an absolute sense, are uninhibition, irritability and apathy. Moreover, the results indicate that depression and anxiety cause a greater degree of distress in sealer patients. **Discussion and conclusion.** Uninhibition, irritability and apathy were more burdensome for mental health workers, because they require a greater engagement in the therapeutic relationship. Anxious and depressive symptoms cause a greater degree of distress in the sealers patients, reporting lower endurance of the denial of psychosis. The data seem to prove that knowing, differentiating and deepening the different aspects of the recovery style of each patient enable us to estimate the burden management, starting from the taking in charge, and to reduce the distress and the risk of burn out of the mental health workers.

KEY WORDS: psychiatric rehabilitation, semi-residential setting, recovery style, integration, sealing over, distress, burden management.

RIASSUNTO. Scopo. Nella riabilitazione psichiatrica il piano di trattamento individuale può essere formulato a partire da strumenti che offrono una valutazione multidimensionale del paziente. Il lavoro si propone di analizzare il rapporto tra gravosità (distress degli operatori) e stile di recupero (integration e sealing over) dalla patologia psicotica. Ipotizzando che esso influenzi il carico gestionale, lo studio si pone l'ulteriore obiettivo di acquisire maggiori elementi che indirizzino la formulazione di piani terapeutico-riabilitativi più efficaci. **Metodi.** Lo studio è stato condotto presso un centro diurno psichiatrico, struttura semi-residenziale dei servizi psichiatrici del Sistema Sanitario Nazionale in Italia. 45 pazienti reclutati sono stati valutati mediante la Neuropsychiatric Inventory (NPI - versione italiana) e la Integration/Sealing Over Scale (ISOS - versione italiana), nell'arco di tre mesi (marzo-giugno 2014). **Risultati.** Nel campione esaminato è emerso che la disinibizione, l'irritabilità e l'apatia sono i sintomi che provocano maggiore distress negli operatori, in senso assoluto. Inoltre, i risultati indicano che depressione e ansia recano un grado maggiore di distress nei pazienti sealer. **Discussione e conclusione.** Gli aspetti della disinibizione, dell'irritabilità e dell'apatia sono risultati più gravosi per gli operatori in quanto richiedono maggiore coinvolgimento nella relazione terapeutica. Sintomi ansiosi e depressivi risultano più gravosi nel gruppo dei sealer, segnalando minore tenuta della negazione della psicosi. I dati osservati sembrano provare che conoscere, differenziare e approfondire i diversi aspetti dello stile di recupero di ciascun paziente consente di stimare l'impegno gestionale fin dalla presa in carico e di ridurre il distress e il rischio di burnout degli operatori.

PAROLE CHIAVE: riabilitazione psichiatrica, setting semi-residenziale, stile di recupero, integration, sealing over, gravosità, carico gestionale.

INTRODUCTION

In psychiatric rehabilitation, the Day Center is the structure of the Department of Mental Health in which therapeutic/rehabilitation programs and re-socialization activities

take place in semi-residential setting. The aim of these activities is the recovery of personal and social skills in patients with chronic psychiatric illness¹.

In this setting, which foresees a long-lasting therapeutic relationship with patients with many management problems,

the analysis of the severity concept and above all the correlation between this aspect and the severity of the disease presented by patients has been gaining importance².

The severity of symptoms has to be understood as the intensity of the symptoms and the related social dysfunction. The burden is the degree of distress reported by the health workers in the management of severe patients.

In the psychiatric Day Center, a high prevalence of patients with psychotic disorders is commonly observed. The recovery style adopted represents the set of strategies aimed at finding a way to escape from acute psychosis. Each patient faces and manages his/her own psychosis in a unique way. However, from the study and care of many patients in remission from an acute psychotic episode, Levy et al.³ observed that the different recovery styles tend to converge into two types: integration and sealing over. Integration describes a process where a continuity between the thoughts and feelings experienced during psychosis and mental life, pre- and post-psychotic, is recognized. On the other hand, sealing over describes a process where the experiences and psychotic symptoms are isolated from non-psychotic mental events and therefore made unavailable both by the conscious suppression, and by removing^{3,4}.

Mayer-Gross⁵ has already described an attitude of recovery from an acute psychotic episode by integration, when patients try to reconstruct a continuity between before and after the disease, or by denial, aimed at maintaining their mental status and protecting themselves from the stigma associated to psychosis (sealing over).

Integrators struggle with conflicts emerged in their psychotic experiences and are able, gradually, to redefine these conflicts in a non-psychotic way. They are curious about their psychotic ideas, they feel responsible for them and try to use their psychosis as a source of new information, with the aim to change the pre-morbid disposition and behavior. In integrators, more aware of the importance of the assistance received, a certain degree of therapeutic involvement and empathetic exchange can be observed.

On the contrary, sealers try to encapsulate their psychotic experience because they perceive it as something alien and intrusive in their lives. They are not inclined to discuss on the thoughts and feelings they had during their acute psychotic episode. They often seem to have a lack of awareness about the details of their psychotic episode and they are unable to put their psychotic experiences in a personal context.

Once the psychotic episode is passed, sealers keep awareness of the negative aspects and fail to explore, through the therapeutic relationship, their experience of illness.

These patients rarely treat psychosis as a source of new information about themselves, but they try to return to pre-morbid patterns of behavior, sometimes with considerable success.

The concept of service engagement is potentially related to the construct of recovery style. Although this theory is considered very broad and not fully shared in all its specifications in the scientific community, it focuses the attention on the attitude of the mental health workers to engage himself/herself in the relationship with the psychiatric patient who adheres to and cooperate with the treatments. In light of this information, the recovery style can be a valuable element used to predict the commitment of the patient with the psychiatric service. For example, it is described in the literature

that patients adopting a sealing over recovery style show a lower service engagement^{6,7}.

The primary aim of the study is to analyze the relationship between the severity of psychotic patients in a psychiatric day center and the recovery style. Secondary, this study is aimed to evaluate how the recovery style influences the burden management.

METHODS

This cross-sectional study assesses a total of 45 patients in a Psychiatric Day Center, suffering from psychotic disorders and recruited from March to June 2014.

Patients had to fulfill the following inclusion criteria: suffer from psychotic disorders (Schizophrenia, Schizoaffective Disorder, Delusional Disorder, according to the criteria of ICD-10); attend the Day Center for at least one year; attend the Day Center with a frequency of at least twice a week; sign an informed consent for the participation⁸.

Patients suffering from a psychotic disorder represented 82.35% of all users of the Day Center. Two psychiatrists, who also managed the collection and analysis of the data, conducted the evaluation. The rating scales were administered both to patients and, where applicable, to the reference caregiver. The involved health worker was in 35.6% of cases a professional educator and in 64.4% a psychiatric nurse. Nurses and educators interviewed showed knowledge of the guests with an average of nearly four years ($SD \pm 3.72$). This ensured a very detailed understanding of each guest and a good familiarity with the terminology used during the submission of the questionnaires. The reference caregivers signed an informed consent for the participation.

A further element in favor of the high reliability of the caregivers was the length of time spent working in a psychiatric service. This period, a minimum of 5 years, and a maximum of 20 years, with an average of nearly 12 years ($SD \pm 4.81$), has allowed a high knowledge of the terminology of the psychiatric pathology with its clinical presentation.

The different psychopathological expressions and the degree of distress reported by the health workers were assessed through the Neuropsychiatric Inventory (NPI), semi-structured interview based on twelve questions enabling to evaluate each symptom presented by the patient through the frequency and severity⁹.

The recovery style was assessed through Integration/Sealing Over Scale (ISOS). This scale is a semi-structured interview administered to caregivers and it consists of 13 items. Each one is expressed by two antithetical hypothesis that respectively refer to integration and sealing over style⁴. It has a high reliability, which can be attributed to the health workers: they have been trained to use the scale and have a good knowledge of their patients.

This instrument has already been validated and previously used by our working group also within the semi-residential setting^{7,10-13}.

On the basis of the ISOS score we defined the two groups of patients (ISOS: integration 0-3; sealing over 4-6)³.

The Day Centre foresees the delivery of multiple types of interventions classified according to the criteria of the PSYCHE software of the Lombardy region. It is an electronic system aimed at recording the performances divided by typology (activities in the Day Centre, in the territory, at home), directed to the support the daily life (interventions related to basic, interpersonal and social skills), and also activities of individual and group re-socialization.

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Support to families is also offered both through interviews and psycho-social interventions. Nursing activities are offered, too. They include the direct administration of psychopharmacological therapy and the survey of the vital signs.

In the Day Centre the motor activities (gymnastics, sports and psychomotor integration) and expressive activities (drawing, painting, wood and clay working) are carried out.

Finally, among the proposed interventions there are interviews both with the psychiatrist and with the psychologist, who performs individual and group therapies.

Statistical analysis

All collected variables were described by mean and standard deviation or absolute frequencies and percentages, respectively for continuous and categorical variables. The Chi-square test (for categorical variables) and T tests for independent samples, or the corresponding non-parametric Wilcoxon (for continuous variables) were used to compare the two groups.

On the basis of the scores of the NPI, we compared the two groups in relation to the proportion of patients who reported the presence of each symptom. The average values of the severity (Wilcoxon test) for the entities in which the symptom was present and the proportion of presence of distress (Chi-Square or Fisher Test) were compared in the two groups. The severity of symptoms was calculated on the basis of collected data by the NPI as *frequency*gravity*.

The correlation between severity of the symptoms and the degree of distress was calculated by the non-parametric Spearman. A regression model with interaction term was applied to test if the recovery style modifies the effect of severity on the distress. We noticed significant values of the interaction parameter indicating that the recovery style modifies the effect of severity in the symptoms of distress. All test were considered significant at 0.05 alpha level. The data were analyzed using SAS (Statistical Analysis Software) version 9.4. The design of the study was approved by the Provincial Ethics Committee.

RESULTS

25 women (56.6%) and 20 men of the sample (44.4%) were recruited among psychiatric patients at the day centers, with an average age of about 51 years (Table 1).

The average period of follow-up at the day centers was 5 years and the average frequency was 4 days a week.

From the analysis of the socio-demographical and clinical characteristics of the sample in comparison with the recovery style there were no statistically significant differences (Table 1). This fact allows us to perform non adjusted analysis and to feel confident that any significant differences observed are not affected by a different composition of the two groups for socio-demographical and clinical characteristics.

Recovery Style and symptoms

The assessment performed through the filling-in of the ISOS by the health workers revealed an overlap for almost all of the sample. A homogeneous distribution was observed concerning the recovery style – 23 integrators (51.1%) and 22 sealers (48.9%) – and the splitting of sex: women 50% in-

tegration and 50% sealing over, men show a slight prevalence of integrators (52% vs 48% sealers) (Table 1).

From the analysis of the relationship between symptoms presented (frequency x severity), which correspond to the different items of the NPI, and the recovery style used, no statistically significant differences in the prevalence of symptoms between the two groups were showed. An exception is represented by nervousness, much more present in the sealers (40.9% vs 4.4%) and by depression, significantly more frequent in the group of integrator patients (100% vs 63.6%) (Table 2).

Considering only the average score of severity of the symptoms in the NPI in relation to the recovery style, no statistically significant differences were showed.

The difference 4.0 vs 10.1 referred to nervousness suggests a not statistically significant relevance between the two groups, probably due to the low size of the sample (Table 3).

Distress

Figure 1 describes the distress reported by the mental health workers depending on the presence of symptoms in the two different recovery styles.

From the analysis of the data, symptoms such as agitation and nervousness seem to determine a high degree of distress.

Considering the analysis of the degree of distress related to the recovery style, statistically significant differences were not observed.

In Table 4 we can find the correlation according to Spearman between distress and symptoms presented (frequency x severity) in both groups of patients and on the total of the sample. We can also find the value of interaction test between severity and recovery style. A significant value indicates that the recovery style for that particular symptom acts as a modifier of the effect on distress.

The Spearman test shows a statistical significance of the uninhibition, on the total of the sample ($\rho=0.86$, $p\text{-value}=0.01$). Therefore, it can be considered in an independent way from the recovery style ($p\text{-value}$ interaction term = 0.49). As far as nervousness and apathy are concerned, a high correlation was found ($p>0.50$), although not significant. These aspects, both for the excess and for the lack of the stimuli caused in the mental health workers, are the least tolerated in the therapeutic relationship, affecting the response of eustress¹⁴. With reference to the recovery style, statistically significant differences were found for depression and anxiety, bearing a greater degree of distress in the management of sealer patients (interaction $p\text{-value}$ 0.01 and 0.004, respectively).

These patients can bring the different therapeutic/rehabilitative proposals as bearing excessive inner tension in the mechanism of denial of the psychotic experience. For this reason, symptoms such as anxiety and depression acquire clinical expression that determines a greater degree of tension and psychological stress in mental health workers.

Recovery style and rehabilitation activities

As far as the analysis of the frequency of participation in rehabilitation activities is concerned, the chi-square test (or Fisher exact test, if needed) was used to test the association

Table 1. Socio-demographical and clinical characteristics of the sample.

	Integration	Sealing Over	Test*	p-value
N	23	22	-	-
Age - mean (SD)	51.6 (7.3)	50.2 (9.3)	0.56	0.58
Sex - male (%)	13 (56.5)	12 (54.6)	0.01	0.89
Education attained - high school/graduate (%)	7 (30.4)	7 (31.1)	0.01	0.89
Family caregiving - Yes(%)	13 (56.5)	16 (72.7)	1.29	0.26
Marital Status - Ever married (%)	8(34.8)	4(18.2)	1.58	0.21
Medical History**- Positive (%)	11 (47.8)	8 (36.4)	0.61	0.44
Year frequency - Median§	3	3	1.38	0.16
Weekly frequency - Median§	5	5	-0.63	0.52
Invalidity - complete (%)	15 (65.2)	15 (68.2)	0.04	0.83
Tutor - Yes (%)	2 (8.7)	4 (18.2)	0.87	0.35
Activity - ≥4(%)	21 (91.3)	19 (86.4)	0.28	0.60
Use of antipsychotics - %	19 (82.6)	17 (77.3)	0.20	0.65
Use of antidepressants - %	7 (30.4)	4 (18.2)	0.91	0.34
Use of anxiolytics or hypnotics - %	10 (43.5)	16 (72.7)	3.94	0.04
Use of Depot - %	2 (8.7)	4(18.2)	0.88	0.35
Health worker tenure -Median	14	14	-0.42	0.67

Legend: *Chi-square (1 df) for qualitative features, t-test (43 df) or Wilcoxon for quantitative features.

**Positive Medical History.

§ Wilcoxon test was applied due to non-normality distribution.

Table 2. Proportion of subjects with symptoms, appraisal between the recovery style groups.

	Integration (N=23)	Sealing Over (N=22)	Test*	p-value
	n (%)	n (%)		
Delusions	10 (43.5)	11 (50.0)	0.19	0.66
Hallucinations	14 (60.9)	12 (54.6)	0.18	0.67
Agitation	9 (39.1)	10 (45.5)	0.18	0.67
Depression	23 (100.0)	14 (63.6)	10.2	0.001
Euphoria	8 (34.8)	5 (22.7)	0.80	0.37
Apathy	12 (52.2)	12 (54.6)	0.03	0.87
Anxiety	19 (82.6)	13 (59.1)	3.03	0.08
Uninhibition	4 (17.4)	4 (18.2)	0.005	0.94
Nervousness	1 (4.4)	9 (40.9)	8.7	0.003
Aberrant motor activity	4 (17.4)	5 (22.7)	0.20	0.65
Eating disorders	6 (26.1)	5 (22.7)	0.07	0.79

Legend: *Chi-square (1 df). Fisher exact p-value was reported for depression, uninhibition, nervousness and aberrant motor activity.

with the recovery style. No significant differences were observed neither for the total sample nor in subgroups of patients who reported depression or anxiety.

Only for descriptive purpose, we point out a greater prevalence of some activities in sealer patients (Social ac-

tivities: 90.9% sealers vs 73.9% integrators; support activities to daily life: 59.1% sealers vs 78.3% integrators). The group of sealers has a greater need for interventions aimed at increasing the level of autonomy and socialization¹⁵.

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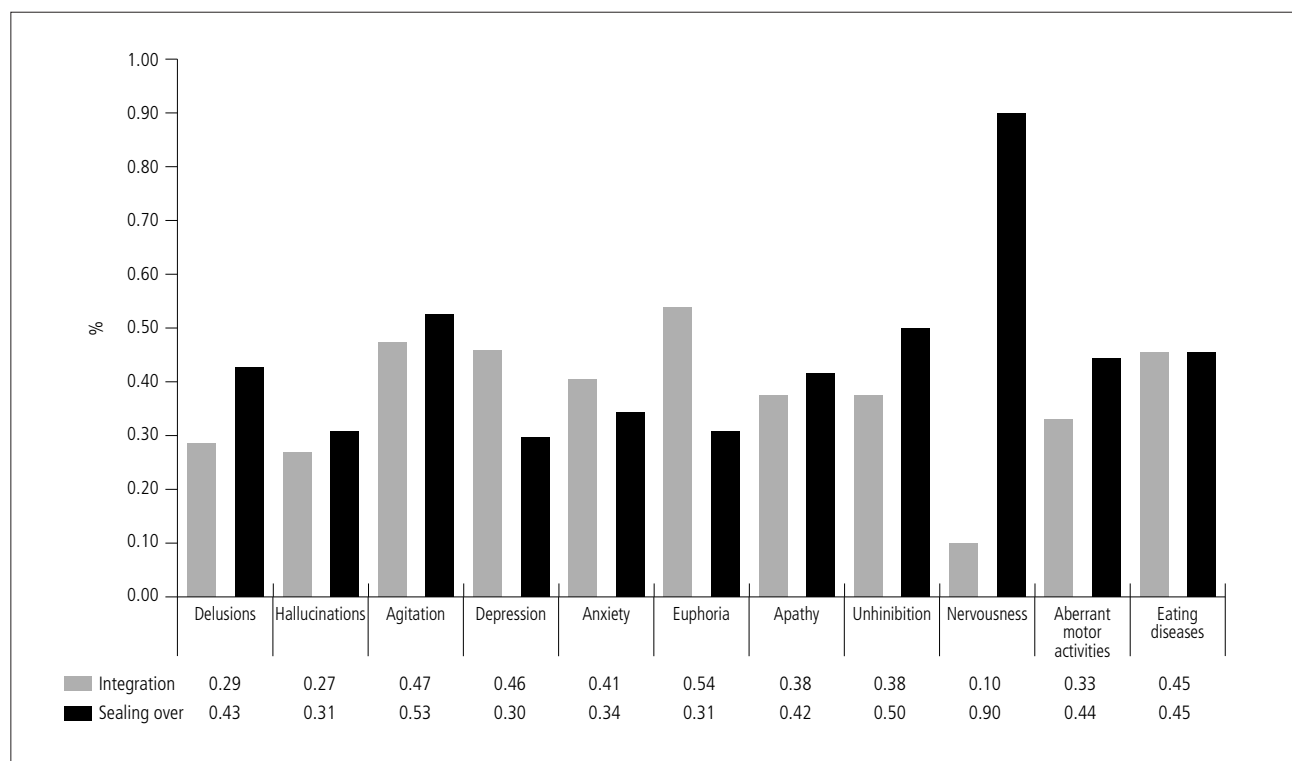


Figure 1. Correlation between distress in the mental health workers and recovery style.

Table 3. Severity and recovery style – mean value of symptom's severity among patients with symptoms.

	Integration		Sealing Over		Test*	p-value
	Patients with symptoms	Mean	Patients with symptoms	Mean		
Delusions	10	10.9	11	9.4	128.0	0.16
Hallucinations	14	9.0	12	8.8	157.5	0.82
Agitation	9	9.0	10	8.8	92.5	0.86
Depression	23	7.3	14	8.1	281.5	0.63
Euphoria	8	8.3	5	8.0	34.5	0.99
Aphaty	12	7.7	12	9.3	136.5	0.42
Anxiety	19	9.9	13	10.5	224.5	0.67
Uninhibition	4	7.0	4	9.8	15.5	0.54
Nervousness	1	4.0	9	10.1	1.5	0.17
Aberrant motor activity	4	9.5	5	11.4	19.0	0.87
Eating disorders	6	9.3	5	9.2	29.5	0.99

Legend: *Wilcoxon two sample test.

Table 4. Correlation between NPI symptoms and distress, differences between recovery style groups.

	n	Overall	Integration	Sealing Over	p-value*
Delusions	21	0.29	0.09	0.68	0.18
Hallucinations	26	0.19	0.30	0.29	0.72
Agitation	19	0.17	-0.10	0.54	0.16
Depression	37	0.32	0.01	0.76	0.01
Euphoria	13	0.01	-0.06	0.00	0.84
Aphaty	24	0.51	0.40	0.64	0.08
Anxiety	32	0.06	-0.27	0.43	0.004
Uninhibition	8	0.86	0.82	0.82	0.49
Nervousness	10	0.56	ne [§]	0.43	ne
Aberrant motor activity	9	0.27	0.82	-0.18	0.38
Eating disorders	11	0.38	0.57	0.18	0.82

Legend: *p-value referred to interaction between recovery style and severity in a regression model

ne = not estimable

§ only 1 patient in this category

DISCUSSION AND CONCLUSIONS

The use of validated tools aimed at a multi-dimensional evaluation of the patient seems to be confirmed as established method to improve the knowledge of the patient and his/her relationships and, therefore, to formulate a more effective treatment plan. This element has to take into consideration the evaluation of the severity and distress to estimate the burden management in the rehabilitation setting.

As far as we know, in the literature there are no other studies analyzing the relation between severity and recovery style in the rehabilitation setting. The study of the recovery style adopted in psychotic disorders has been revealed as an element of novelty and additional criterion of knowledge for patients suffering from severe psychiatric illness, which need long treatment programs.

The study showed that the symptoms in NPI affect differently, in the two types of recovery style, the distress of the mental health workers. Therefore the first end point was achieved. Equally, the second end point was achieved with the evidence of a different burden management by the Day Centre in relation to the recovery style. However, especially in relation to the second end point, the small size of the sample is a limit of our study.

This datum allows to steer the planning of targeted interventions, preventing rehabilitation proposals which uselessly increase the burden management. Knowing the recovery style of each patient allows to estimate the burden management, starting from the taking in charge (assessment), and therefore to reduce the distress and the risk of burn-out. The study allows to acquire scientific elements that address the

formulation of more qualified therapeutic-rehabilitation plans. It can be assumed that integrators benefit more from individual interventions, while sealers from group and socializing activities.

Unlike in the previous studies which involved the enrollment of inpatients and outpatient structures, where a prevalence of the integration style for females was observed⁷, in this study the prevalence between the two styles was similar. Furthermore, the overall prevalence of the integration style was observed in the work cited, while the observation targeted to the day center showed an equal distribution of the two types of patients. This element underlines the importance of being able to formulate therapeutic/rehabilitation programs that take into consideration the different characteristics of both groups of users.

From the analysis of the relationship between symptoms presented and recovery style, nervousness was much more present in the sealers and depression was significantly more frequent in the group of integrator patients. This result apparently contradicts a previous study in which a greater comorbidity with depressive symptoms in sealers was highlighted¹⁶. However, as showed in a later work¹⁷, this result may be related to a greater awareness of the disease that distinguishes integrators.

Sealers revealed a prevalence of irritability higher than the integrators in a statistically significant way. This symptom can be interpreted as a sign of an inner tension between the mechanism of psychotic denial that characterizes these patients and the experience of sharing emotions, without the relationship to be lived with excessive persecutory. This arises from the possibility of establishing multiple re-

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relationships within of the group of mental health workers¹⁸. Participation in therapeutic / rehabilitation activities can increase the tension of the mechanism of denial of the psychotic experience.

Symptoms causing a greater distress, in an absolute sense, are uninhibition, nervousness and apathy. These aspects, both for the excess and for the lack of the stimuli caused in the mental health workers, are the least tolerated in the therapeutic relationship.

Agitation and nervousness characterize clinical situations of excessive stimulation, resulting in an increase of the demand for professional intervention by the mental health workers. Moreover, these symptoms destabilize the emotional climate of the group and represent an exception to the daily program of rehabilitation activities planned with patients.

In the sample of the Day Center, the results seem to prove that symptoms such as depression and anxiety cause a greater degree of distress in sealer patients, because the participation of these patients at the Day Center causes an inner tension in their try to cancel the psychotic experience.

In the rehabilitative activity that foresees a long-time relationship with the patient, it is important to identify and monitor also the factors which are less obvious and less studied. They contribute to determine distress of the health workers, in order to improve the quality of services provided. The regular meetings of the multidisciplinary team, on the basis of the results obtained, represent an opportunity to agree, check and change the rehabilitation activities targeted to the individual patient, based on the recovery style and the degree of distress of the mental health workers, in order to reduce the burden management.

Conflict of interest: the authors declare they have no conflict interest.

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