Evaluation of the effectiveness of integrated psychological therapy in long-term evolution of patients with schizophrenia

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Evaluación de la efectividad de la terapia psicológica integrada en la evolución a largo plazo de pacientes con esquizofrenia

Summary

Introduction. *Psychosocial therapy programs have been effective in relapse prevention, symptoms control, and functional improvement in patients with schizophrenia. Accordingly, and in addition to medication, they are currently an indicated therapy component. Therapy efficacy of the package used in this study was positive in short-term follow-ups and is now appropriate to analyze them four years later.*

Method. *Clinical and social functioning effects of a psychosocial intervention package, consisting of psychoeducation and integrated psychological therapy (IPT) with patients, and psychoeducation, behavioral therapy and problem solving training with families, were studied in 20 out-patients with schizophrenia (using pre-treatment, post-treatment and four-year follow-up measures).*

Results. *Within groups results indicate a sustained improvement in the treatment group as compared to a 15 out-patients comparison group that received standard treatment. All participants were on stable regimens of antipsychotic medications. After the follow-up period, however, between groups differences tend to diminish.*

Conclusions. *The overall findings indicated that this package has produced encouraging effects still apparent in the 4 year follow-up. However, the intervention procedure merits further investigation, and suggestions are made to keep a low-level, long-lasting psychosocial intervention, adapted to each patient's needs.*

Key words: *Psychosocial intervention. Integrated psychological therapy. Follow-up study. Schizophrenia.*

Resumen

Introducción. *Los programas de terapia psicosocial han resultado eficaces en la prevención de recaídas y en el control de los síntomas y la mejora funcional de pacientes con esquizofrenia, siendo una opción terapéutica indicada, además del tratamiento farmacológico. La eficacia del paquete terapéutico aquí utilizado ha confirmado tener efectos favorables en estudios de seguimiento a corto plazo y se somete de nuevo a comprobación 4 años después.*

Método. *Se analizan los efectos clínicos y del funcionamiento social de 20 pacientes ambulatorios con esquizofrenia (con medidas pretratamiento, postratamiento y seguimiento de 4 años) de un programa de intervención psicosocial grupal que incluye psicoeducación y la terapia psicológica integrada (IPT) junto a intervención familiar con psicoeducación, terapia conductual y entrenamiento en solución de problemas.*

Resultados. *Los análisis intragrupo demuestran mejoría sostenida en el grupo de tratamiento, comparativamente con un grupo control de 15 pacientes que seguían un tratamiento estándar. Todos los pacientes fueron tratados con medicación antipsicótica. Tras el período de seguimiento, sin embargo, las diferencias intergrupos tienden a debilitarse.*

Conclusiones. *Los hallazgos revelan que el paquete de intervención mantiene sus efectos favorables tras los 4 años de seguimiento. No obstante, el procedimiento de intervención requiere mayor estudio y se señala la conveniencia de mantener la intervención psicosocial indefinidamente, adaptándose a las necesidades de cada paciente.*

Palabras clave: *Intervención psicosocial. Terapia psicológica integrada. Estudio de seguimiento. Esquizofrenia.*

INTRODUCTION

There is much scientific evidence in regards to the greater efficacy of the programs that combine pharmacological and psychosocial treatment in comparison with the exclusive use of neuroleptic treatment to prevent the risk of schizophrenia relapses[1,2]. As a consequence, including psychological intervention has been

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suggested by the clinical guidelines of several international professional associations and in the experts consensus guidelines[3-6], including different modalities of psychological treatment[7,8].

Most of the psychosocial interventions in schizophrenia have been limited to: *a)* psychoeducative and behavior family interventions[9]; *b)* training in social abilities and skills to live in the community[1]; *c)* cognitive-behavior treatments, aimed both towards positive symptoms of the disease as well as the underlying basic cognitive condition alterations[10-13], and *d)* multimodal integrated packages[2,14].

Integrated psychological therapy (known as IPT), that was developed by Brenner et al. in Berna and later applied successfully in Germany, Switzerland, USA and other countries, is one of the multimodal and structured programs of psychosocial intervention in schizophrenia[8,15,16]. The IPT has been a very valuable contribution for the psychosocial rehabilitation of patients with schizophrenia, as it combines several procedures based on behavior therapy, aimed at correcting the deficits generally shown by them in a well cemented theoretical framework. The IPT is made up of five modules or subprograms of collective application, in small groups of 4-7 patients, that include: *1*) cognitive differentiation; *2*) social perception; *3*) verbal communication; *4*) social competence, and *5*) interpersonal problem solving. The first two subprograms are aimed at acquiring basic cognitive functions while the last three include activities oriented at acquiring and improving interpersonal skills and daily problem solving.

Each one of the IPT subprograms is made up of simple and structured tasks in the first sessions and progressively become more complex and open. In the same way, the activities and material used are emotionally neutral in the initial phases of each module, and slowly require greater affective involvement of the patient in performance and learning in the management of stress and emotions.

The subprograms of the IPT, except for the first (Cognitive differentiation), have been used in a 12 month long psychosocial intervention protocol that also includes psychoeducation, with out-patients seen in the Mental Health Unit of the Hospital Sierrallana of Torrelavega (Cantabria) since 1996. It was decided to leave out the Cognitive differentiation subprogram due to the doubtful effect of generalization that is derived from the progresses obtained in the functions that are specifically trained for the social functioning, cognitive training being more effective in group for the primary deficits related with vulnerability[17]. This was also based on the investigation performed by its authors[18], comparing the mirror application (cognitive-social or inverse) of the IPT subprograms, that demonstrated better effects following a social-cognitive order, although clinical improvement was observed with both formats. The changes observed indicated that cognitive intervention has no significant impact on behavioral levels and, consequently, is not very useful for the most effective social training. On the contrary, beginning with social rehabilitation seems to have a more noticeable descending effect towards basic cognitive functions, activating coping skills, developing non-deteriorated cognitive processes and improving self-concept.

Complementarily to IPT, and following the accumulated experience on family therapies[9], a program of group family intervention was also carried out without the presence of the patient, consisting in psychoeducation and behavioral therapy, developed in the modules of training in Communication, Problem solving and Coping. The family therapeutic sessions are structured and organized according to the behavioral techniques of instructions, rehearsals, modeling, social reinforcement, activities in vivo and homework.

The results of the clinical course of the patients and their families, who, in addition to the drug treatment, participated in the psychosocial intervention program, in comparison with other patients who were seen according to a standard medication protocol and out-patient check-ups, were made known at the end of the 12 month long program[19] and after 9 months of follow-up[20,21]. In summary, the results showed that the intervention group significantly improved clinical symptoms and social functioning while the comparison group hardly experienced changes in the follow-up. On the other hand, the symptom relapse rate was 10% in the psychosocial intervention group versus 26.7% in the comparison group.

Four years after the end of the psychosocial intervention program, we consider assessing effectiveness of the therapeutic program again, analyzing the clinical status, social functioning of these patients and the relapse rate is useful.

METHOD

Subjects

The therapeutic program was administered to 28 outpatients, 70% of whom were men, who were divided into four groups, who fulfilled the ICD-10 diagnostic criteria for schizophrenia, whose mean age at the onset was 31.5 years (ST = 5.44) and whose disease evolution time was 8.91 years (SD = 2.57). The control or comparison group was made up of 18 patients having similar characteristics. Their mean age was 30.0 years (SD = 4.64) and mean disease duration was 8.64 years (SD = 2.6); 80% were men. Both groups were similar in these characteristics, which were not statistically significant. Both the patients of the index group or psychosocial treatment group as well as those of the comparison group came from the same population and were assigned to both groups by order of arrival to the mental health unit. All the patients followed treatment regularly with typical or atypical antipsychotics, at similar doses.

It was an essential requirement for the patient to live with his/her family in order to be included in either of the two groups. The commitment of the family to come

to the programmed therapeutic activities regularly was also a requirement.

Of the 28 patients who were initially assigned to the index group, 8 were excluded for different reasons: serious physical disease (n = 1), refusal to give informed consent (n = 3), early drop-out from treatment, transfer to another therapeutic unit, travel difficulties and simultaneous onset of professional training program (n = 4). Of the 18 patients from the comparison group, 3 were excluded because consent was not given, due to drop-out from the program and due to change of address. Consequently, the index and comparison group for posterior analyses were made up of 20 and 15 patients respectively.

Instruments

Four assessments of the clinical status of the patients and their functioning were performed (at the onset of the therapeutic program; 12 months later, coinciding with the end of the program; and after follow-ups of 9 months and 4 years), using the following instruments:

Clinical state of the patient

- The Spanish version of the Frankfurt Symptomatic Inventory (Frankfurter Beschwerde-Fragebogen [FBF]), made up of 98 items, was used[22,23]. This is a self-applied scale that examines ten symptomatic areas (loss of control, simple perception, complex perception, language, cognition and thought, memory, motor behavior, loss of automatism behavior, anhedonia/anguish, sensory overstimulation), synthesized into two subscales of trait and state characteristics.
- The extended version (24 items) of the Brief Psychiatric Rating Scale (BPRS-E) developed by Lukoff, Nuechterlein and Ventura[24] based on the original one[25], to assess anxiety/depression, thought disorders, anergy, activation and hostility. The patient's state was determined by different clinicians who carried out the psychosocial intervention program, in order to guarantee the objectivity of the observations.

Stress

The Social Readjustment Rating Scale (SRRS)[26] was administered to the patients, with a list of 55 potentially stressing events, according to the Spanish adaptation of Labrador[27].

Family measurements

- The Social Functioning Scale (SFS)[28] was used to assess the opinion of the families on the following functioning areas of the patients who live in the community: social withdrawal, interpersonal behavior, pro-social activities, recreation and independence.
- The Barrowclough and Tarrier Family Questionnaire (FQ)[29], that includes 59 potentially disturbing behaviors of the patient are assessed on a 5 point Likert type scale in three subscales: number of disturbing behaviors, family burden that it causes and the families ability to cope with them.
- The Family Coping Questionnaire (FCQ)[30], that examines the strategies used by the psychotic patients relatives to cope with the disease, in 27 items that are answered on a 4 point Likert type scale and that are grouped into seven subscales (information, positive communication, social interests, coercion, avoidance, resignation and patient's social involvement). The factorial analysis of the items makes it possible to form three factors: *1*) positive coping strategies, oriented towards the problem (attitudes that try to modify the person-situation relationship by information seeking, involvement of the patient and positive communication); *2*) strategies focused on controlling the emotions (avoidance, resignation and coercion); and *3*) maintenance of social contacts.

Procedure

The 12 month psychosocial intervention program described in previous reports[21,31,32] consisted in psychoeducation sessions and behavioral therapy aimed at the relatives and psychoeducation and IPT (Social perception, verbal communication, social competence and interpersonal problem solving) with the patients, following the procedure described by its authors[16]. Both the psychoeducation subjects dealt with and some concerns shown by the family and the patients are indicated in table 1.

Following the model proposed by Falloon et al., therapeutic sessions were carried out with the relatives in order to improve communication, learn problem solving skills and home stress management strategies[33,34]. A global summary of the program is presented in table 2 and the contents of the behavioral family therapy are presented in table 3.

RESULTS

Within group comparisons have been carried out to verify the evolution of the patients at the end of the therapeutic program and after 4 years of follow-up. It should be stated that both the index group as well as the comparison group of the sample was reduced by 3 subjects, respectively, in the last assessment. One of the patients of the index group moved to another location and contact was lost by telephone or other means in the other cases.

TABLE 1. Synthesis of the psychoeducation sessions contents with patients and families and main subjects of concern

Session	*Contents*	*Examples of subjects of concern for the families*	*Examples of subjects of concern for the patients*
1	Schizophrenia: causes, types and symptoms	*Symptoms:* how to distinguish negative symptoms of laziness? *Causes:* why did our child become ill? What did we do wrong? *Course:* how will the child evolve? what will happen to the child?	*Symptoms:* basic cognitive disorders: Why can't I concentrate? *Causes:* Why did I get ill? *Course:* How can I recover my mental capacities? Will I end up in a psychiatric institute?
2	Vulnerability: protection and risk factors	Is the expressed emotion our fault? What does this stress refer to?	Can sporadic or low doses of alcohol and drugs be taken? Does being vulnerable mean being useless? What can a vulnerable person do?
3	Pharmacological treatment and side effects	What does the medication do? Why don't the symptoms completely disappear? How long will he/she have to take medication?	How long do I have to take the medications? What happens if I do not take them? The symptoms continue, my head is worse, they make me feel dazed, I cannot to anything well, I get tired
4	Relapse prevention: identification of prodromic signs	Will he/she continue to relapse? Will he/she get worse and worse? How do we know if he/she is having a relapse? Do you have to be alert to what is happening at all times?	How many times will I suffer a relapse? How can I make a commitment to something if «it can come at any time»? How can I avoid it?
5	How the family can help itself: control of family burden	Only those in the home are available for all this: how can the burden be divided? He/she only accepts my care, he/she does not want anyone else nearby	
6	Skills for cohabitation: establishing goals and rules	I say one thing and my husband another. How can his/her habits be changed now? It is already too late. It is useless to establish rules, he/she does what he/she wants to	
7	Basic skills for good communication	What is the best way to say things to him/her? Can we contradict him/her? How should conflictive subjects be handled?	
8	How to cope with special cohabitation situations	How and why should we get up first? What should we do with money? What should be done about schedules?	
9	Family associations and self-help	What is the association good for? What activities does it carry out?	
10	Community resources and services	What help exists: transportation, scholarships, pensions, courses, work, etc. The town social services	

The index group experienced a significant clinical improvement between baseline level, onset and end of the program in all the BPRS scales and in most of the aspects assessed with the FBF (table 4); furthermore, this improvement was maintained 4 years later.

It is also possible to observe an identical pattern of improvement in interpersonal functioning (SFS), in the number of disturbing behaviors, family burden and, consequently, the need to solve them (FQ) as well as in positive coping style demonstrated by the relatives (FCQ factor 1). In all the variables mentioned, the significant changes that occur may be considered a consequence of the therapeutic program and are maintained over time.

In the comparative group, on the other hand, no sub stantial changes are seen in the measurement of the clinical state or of social functioning. On the contrary, there is an increase in social withdrawal behaviors (SFS). The family coping styles reveal significant tendencies towards a style that is fundamentally focused towards the control of emotions, but there was also a significant decrease of positive problem solving and social relationships (table 5).

The between group comparisons have been performed with the non-parametric Mann-Whitney U technique and reveal that, at the onset of the treatment, the index group subjects showed significantly higher baseline scores in motor behavior (FBF) as well as in anxiety-depression, anergy and activation (BPRS), greater stress level, greater independence degree (in the opinion of their relatives) and a coping style of these that are more focused on control of emotions (table 6). These differences are sponta-

TABLE 2. Development of the intervention program with the patients and relatives

Therapeutic program for the patients				
Psychoeducation	*Social perception*	*Verbal communication*	*Social competence*	*Problem solving*
1 month (4 sessions)	$2^1/_2$ months (10 sessions)	$2^1/_2$ months (10 sessions)	3 months (24 sessions)	3 months (9 sessions)
Therapeutic program for the relatives				
Psychoeducation	*Verbal communication*	*Problem solving*	*Behavioral therapy*	
$2^1/_2$ months (10 sessions)	$^1/_2$–1 month (2-4 sessions)	3 months (9 sessions)	3 months (9 sessions)	

neous, and are verified once subjects are assigned to each group. At the end of the treatment, however, the differences observed between both groups are reduced to a tendency towards clinical improvement (total score of BPRS) and social functioning (SFS) that is superior in the index group. In addition, the relatives of the index group show significant changes in positive coping strategies towards the problem and control of emotions (FCQ) (table 7).

In the assessment performed after four years of follow-up, however, the measurement of the clinical state and social functioning tends to become equal in both groups. However, taking the number of patients who had symptom relapse at some time in the follow-up period as a clinical indicator, it was verified that there were 5 cases in the index group (29.4%) and 6 (50%) in the comparison group (table 8). The easing of the between groups differences could be attributed not only to a supposed weakening of the therapeutic program effects over time but also, to a large degree, to the systematic posterior implementation of the psychosocial intervention program explained herein in the mental health services of Torrelavega (Cantabria), to which the comparison group patients were sent to later.

DISCUSSION

The psychosocial interventions in out-patients with schizophrenia that include psychoeducation, family behavioral therapy and IPT agree with the recommendations of the international experts, who stress the need to favor an adequate alliance between clinicians, relatives and patients, to develop positive coping strategies in family members, to train patients in stress control, in overcoming the processing deficit of social stimuli, in verbal communication skills and in interpersonal problem solving and in

TABLE 3. Example of the questions approached in family therapy

Activities for adequeate comunication	*Problem solving activities*	*Activities for positive coping*
Request opinion from the patient; do not think for him/her; don't guess their answers Learn to give simple, clear and short messages Only repeat a central idea if there is cognitive deficit; if this is not so, sequence the ideas at no more than two or three per communication Select the moments in the day and the adequeate mood states to communicate Make adequate and pertienent criticisms, focused on the patient's behaviors and not on his/her person Congratulate, thank and praise; avoid the «you know it, you don't need us to tell it to you»	Approach the most common problems in the group: night-time activity and getting up late; lack of interest for things; inactivity; going out, coming home and domestic schedule; poor administration of money; refusal or resistance to take medication; hostility at home; making domestic tasks and life difficult; lack of communication, silences; alcohol and drug consumption; friendships and sexual habits	Know how to increase and decrease the demands and stimulation of the patient Learn how to handle the reinforcements differentially. Cognitive restructuring for dysfunctional beliefs on maternal obligations, stigma, guilt or responsibility in the diesease, etc. Adjustment of family expectations between «nothing can be done» and «nothing is happening here» Training in relaxation Cognitive-behavioral treatment of anxious, depressive or mixed adaptive reactions

TABLE 4. Variance analysis (ANOVA) of the changes (*main effects)* observed in the comparative group, comparing the pre-treatment, post-treatment and follow-up scores

Variables	*Pre-treatment (n = 20)*	*Post-treatment (n = 20)*	*Follow-up (n = 17)*	*F*	*p*	*Scheffé**
	Mean (SD)	*Mean (SD)*	*Mean (SD)*			
FBF						
Loss of control	3.15 (2.74)	1.55 (2.14)	1.41 (1.80)	3.46	0.039	1-2
Simple perception	1.85 (2.06)	0.65 (1.39)	0.94 (1.75)	2.53	0.089	
Complex perception	2.40 (2.26)	1.25 (2.00)	1.12 (2.09)	2.14	ns	
Language	4.15 (3.10)	2.15 (2.18)	1.47 (2.62)	7.03	0.002	1-3
Cognition and thought	3.80 (2.86)	1.50 (2.04)	1.59 (2.24)	5.70	0.006	1-2, 1-3
Memory	3.65 (2.92)	2.10 (2.43)	1.88 (2.34)	2.67	0.079	
Motor behavior	2.55 (2.52)	1.20 (1.94)	1.23 (2.08)	2.39	ns	
Loss of automatism behavior	3.80 (2.89)	2.40 (2.23)	1.71 (1.96)	3.66	0.032	1-3
Anhedonia/anguish	3.60 (2.30)	2.05 (2.33)	1.18 (1.94)	5.77	0.005	1-3
Sensory overstimulation	3.40 (2.96)	1.50 (2.09)	1.53 (2.37)	3.67	0.032	1-2
Total score	32.15 (23.50)	16.30 (18.16)	13.94 (19.10)	4.51	0.015	1-3
Frankfurt trait	18.35 (12.62)	10.25 (9.89)	7.56 (9.97)	4.94	0.011	1-3
Frankfurt state	14.00 (11.33)	6.10 (8.68)	6.41 (9.48)	3.98	0.024	1-2
BPRS						
Anxiety/depression	9.35 (3.54)	5.85 (2.23)	6.41 (3.24)	7.51	0.001	1-2, 1-3
Thought disorders	7.90 (4.22)	5.05 (1.96)	5.29 (2.17)	5.43	0.007	1-2, 1-3
Anergy	8.40 (3.17)	5.40 (1.50)	5.29 (2.08)	10.76	0.000	1-2, 1.3
Activation	5.15 (2.56)	3.55 (0.83)	3.53 (1.01)	5.91	0.005	1-2, 1-3
Hostility	4.80 (1.94)	3.65 (1.18)	3.76 (1.75)	2.90	0.064	1-2
Total score	40.80 (9.44)	29.15 (4.21)	31. 12 (7.84)	13.76	0.000	1-2, 1-3
SRRS: stress	689.40 (449.32)	377.95 (395.60)	492.82 (396.02)	2.87	0.065	
SFS						
Social withdrawal	10.25 (3.04)	11.80 (1.94)	12.00 (2.85)	2.51	0.091	
Interpersonal behavior	16.30 (4.99)	21.75 (3.43)	20.406 (5.67)	6.95	0.002	1-2
Pro-social activities	15.75 (9.46)	15.80 (8.61)	18.62 (2.48)	0.54	ns	
Recreation	15.30 (4.72)	16.15 (3.80)	16.50 (5.40)	0.33	ns	
Independence	33.10 (6.87)	35.45 (2.96)	34.50 (1.38)	0.97	ns	
Performance	18.35 (6.74)	21.75 (5.86)	19.69 (8.39)	1.21	ns	
Total score	109.80 (23.53)	123.60 (15.05)	120.69 (26.14)	2.20	ns	
FQ						
Disturbing behaviors	90.10 (17.83)	74.60 (16.22)	72.62 (18.63)	3.74	0.030	1-2
Family burden	43.55 (29.72)	22.55 (15.65)	18.06 (18.75)	6.92	0.002	1-2, 1-3
Coping ability	36.70 (32.46)	13.85 (19.79)	10.81 (11.76)	6.83	0.002	1-2, 1-3
FCQ						
Factor 1	26.45 (5.02)	30.75 (4.45)	26.94 (672)	3.74	0.030	1-2
Factor 2	12.65 (3.45)	12.05 (2.52)	13.12 (2.45)	0.63	ns	
Factor 3	15.55 (3.27)	15.05 (2.84)	13.44 (3.16)	2.19	ns	

* Changes that were significant (1: pre-treatment; 2: post-treatment; 3: follow-up); ns: not significant; SD: desviation standard.

maintaining programs that are long enough to consolidate the advances obtained, in coordination with drug therapy.

Among the recommendations of the PORT project for the treatment of schizophrenia[35], the following are established: *a)* individual or group psychological treatments aimed at specific deficits, using combinations of support, education and training in cognitive and behavioral skills, and *b)* family interventions, of at least nine month long, that should provide a combination of education on the disease, family support, intervention in crisis and training of skills in problem solving.

The results of this study reveal noteworthy changes produced in the index group by the psychosocial intervention program which, to a large degree, integrates these elements, in comparison to the changes observed in the comparison group. However, at the end of the follow-up, it can be seen that the differences decrease in the between groups analyses. This decrease of the effects may well be attributed to, as has been stated, the posterior inclusion of the comparison group in a treatment having similar characteristics, or to the tendency for the effects to decrease if the intervention is not main-

TABLE 5. Variance analysis (ANOVA) of the changes (*main effects)* observed in the comparative group, comparing the pre-treatment, post-treatment and follow-up scores

Variables	*Pre-treatment (n = 15)*	*Post-treatment (n = 15)*	*Follow-up (n = 12)*	*F*	*p*	*Scheffé**
	Mean (SD)	*Mean (SD)*	*Mean (SD)*			
FBF						
Loss of control	2.00 (1.96)	2.13 (1.85)	1.33 (1.49)	0.732	ns	
Simple perception	1.40 (1.99)	1.27 (2.12)	0.92 (1.50)	0.107	ns	
Complex perception	1.73 (1.90)	1.27 (1.98)	1.08 (1.24)	0.496	ns	
Language	3.20 (2.98)	3.27 (3.41)	2.92 (3.00)	2.542	ns	
Cognition and thought	3.07 (2.71)	3.07 (3.24)	1.67 (2.01)	1.112	ns	
Memory	2.53 (2.45)	3.00 (2.10)	2.08 (2.47)	0.517	ns	
Motor behavior	1.00 (1.36)	1.60 (1.35)	1.50 (1.93)	0.641	ns	
Loss of automatism behavior	2.40 (2.53)	3.07 (2.99)	2.25 (2.56)	0.363	ns	
Anhedonia/anguish	2.80 (2.21)	2.93 (3.21)	2.08 (1.83)	0.420	ns	
Sensory overstimulation	1.97 (2.00)	1.87 (1.73)	1.00 (1.20)	1.106	ns	
Total score	21.93 (17.69)	23.27 (19.22)	16.83 (15.40)	0.478	ns	
Frankfurt trait	12.93 (10.28)	14.40 (11.43)	10.67 (9.80)	0.416	ns	
Frankfurt state	9.07 (8.00)	9.07 (8.51)	6.17 (6.09)	0.607	ns	
BPRS						
Anxiety/depression	6.87 (2.43)	8.80 (6.04)	6.33 (1.67)	1.239	ns	
Thought disorders	7.90 (4.22)	6.93 (3.71)	6.75 (4.41)	0.988	ns	
Anergy	6.07 (2.12)	6.73 (3.03)	6.08 (2.50)	0.733	ns	
Activation	3.40 (1.30)	3.33 (0.90)	3.67 (1.30)	0.748	ns	
Hostility	4.33 (2.02)	4.47 (2.77)	3.67 (1.23)	0.605	ns	
Total score	32.20 (7.44)	36.07 (9.96)	33.58 (6.24)	0.863	ns	
SRRS: stress	402.33 (421.32)	392.33 (464.89)	321.75 (304.69)	0.148	ns	
SFS						
Social withdrawal	9.26 (2.43)	10.67 (2.22)	12.33 (2.81)	5.118	0.011	1-3
Interpersonal behavior	15.27 (4.57)	16.33 (4.20)	17.00 (4.73)	0.518	ns	
Pro-social activities	12.73 (6.33)	19.67 (8.07)	13.33 (10.90)	0.769	ns	
Recreation	15.53 (5.01)	13.93 (4.83)	14.25 (6.05)	0.382	ns	
Independence	30.13 (6.42)	30.80 (6.63)	31.92 (5.24)	0.257	ns	
Performance	18.53 (5.57)	18.93 (6.91)	16.08 (7.11)	0.721	ns	
Total score	101.13 (19.99)	99.87 (26.73)	103.33 (31.33)	0.060	ns	
FQ						
Disturbing behaviors	86.26 (16.80)	85.20 (24.75)	71.50 (13.75)	2.329	ns	
Family burden	35.07 (26.33)	33.20 (32.75)	16.58 (16.91)	1.866	ns	
Coping ability	15.47 (11.33)	11.13 (11.20)	7.42 (9.34)	1.891	ns	
FCQ						
Factor 1	27.00 (4.97)	24.73 (4.81)	20.75 (5.05)	5.390	0.009	1-3
Factor 2	10.27 (3.45)	9.80 (4.04)	14.83 (2.76)	8.106	0.001	1-3
Factor 3	15.60 (2.44)	16.60 (3.20)	12.25 (3.255)	7.639	0.002	1-3

* Changes that were significant (1: pre-treatment; 2: post-treatment; 3: follow-up); ns: not significant; SD: desviation standard.

tained in time. It is likely that psychosocial therapy should be applied from the perspective of indefinite accompanying in life, perhaps at a low level or considering the variations in intensity and time when it is applied in each individual case.

However, some limitations in the control of the variables should be mentioned because the index group and comparison group have been formed by consecutive assignation and not randomly. In fact, although both groups presented globally similar characteristics in the initial evaluation, a significant difference was observed in the assessment performed by the health care staff with the BPRS, as the comparison group manifested an initial clinical alteration level and some family variables (of the FQ and FCQ scales) inferior to that of the index group. This makes it necessary to not only cautiously interpret the effectiveness of the therapy but also to perform posterior investigations with larger groups and with an at random design to guarantee neutrality.

One question that was not directly approached in the design of this study is the true attribution of the clinical effects and the social functioning observed in the index

TABLE 6. Comparison of the pre-treatment mean scores: Mann-Whitney U values and statistical significance

Variables	*Index group (n = 20)*	*Comparative group (n = 15)*	*U*	*p*
	Mean (SD)	*Mean (SD)*		
FBF				
Loos of control	3.15 (2.74)	2.00 (1.96)	120.0	
Simple perception	1.85 (2.06)	1.40 (1.99)	129.5	
Complex perception	2.40 (2.26)	1.73 (1.90)	123.5	
Language	4.15 (3.10)	3.20 (2.98)	123.5	
Cognition and thought	3.80 (2.85)	3.07 (2.71)	126.0	
Memory	3.65 (2.92)	2.53 (2.45)	117.0	
Motor behavior	2.55 (2.52)	1.00 (1.36)	92.5	0.005
Loss of automatism behavior	3.80 (2.89)	2.40 (2.52)	104.0	
Anhedonia/anguish	3.60 (2.30)	2.80 (2.21)	125.0	
Sensory ovestimulation	3.40 (2.96)	3.40 (2.96)	106.5	
Total score	32.15 (23.50)	21.93 (17.69)	110.5	
Frankfurt trait	18.35 (12.62)	12.93 (10.28)	110.0	
Frankfurt state	14.00 (11.33)	9.07 (8.00)	110.5	
BPRS				
Anxiety/depression	9.35 (3.54)	6.87 (3.81)	96.0	0.074
Thought disorder	7.90 (4.22)	7.90 (4.22)	129.5	
Anergy	8.40 (3.17)	6.07 (2.12)	84.5	0.028
Activation	5.15 (2.56)	3.40 (1.30)	77.5	0.014
Hostility	4.80 (1.94)	4.33 (2.02)	128.5	
Total score	40.80 (9.44)	32.20 (7.44)	71.5	0.008
SRRS: stress	689.40 (449.32)	402.33 (421.32)	86.5	0.003
SFS				
Social withdrawal	10.25 (3.04)	9.26 (2.43)	112.5	
Interpersonal behavior	16.30 (4.99)	15.27 (4.57)	131.5	
Pro-social activities	15.75 (9.46)	12.73 (6.33)	127.0	
Recreation	15.30 (4.72)	15.53 (5.01)	147.5	
Independence	33.10 (6.87)	30.13 (6.42)	85.0	0.030
Performance	18.35 (6.74)	15.83 (5.57)	138.5	
Total score	109.80 (23.53)	101.13 (19.99)	110.5	
FQ				
Disturbing behabiors	90.10 (17.83)	86.26 (16.80)	140.0	
Family burden	43.55 (29.72)	35.07 (26.33)	133.0	
Coping ability	36.70 (32.46)	15.47 (11.33)	102.5	
FCQ				
Factor 1	26.45 (5.02)	27.00 (4.97)	134.0	
Factor 2	12.65 (3.45)	10.27 (3.45)	92.5	0.005
Factor 3	15.55 (3.27)	15.60 (2.44)	145.0	

SD: desviation standard.

group patients. It could be asked if the improvement may be due to the direct effects that the multimodal therapeutic program has on the behavior of the patients and the improvement in the stress management capacity or rather to the indirect effects derived from them, for example, influenced by better drug compliance by the patients treated in addition to the acquisition of skills. This question, that would require random control of the variables studied, cannot be answered with our data. However, and even if this occurred, the psychosocial program must be accepted as correct, if it also or decisively contributes to favoring the compliance of a therapeutic resource such as pharmacotherapy that has been shown to be essential in clinical improvement.

It is reasonable to think, however, that the exclusive use of drug treatments produces a stagnation in the patients and their families and that, supposedly, complete interventions in schizophrenia produce total improvements. It has been possible to verify how the use of IPT subprograms from the beginning of the intervention reduces the high arousal level of the patients with schizophrenia and motivates the patient due to its importance for the real problems, also indirectly producing improvement in basic information processing skills.

TABLE 7. Comparison of the post-treatment mean scores: Mann-Whitney U values and statistical significance

Variables	*Index group (n = 20)*	*Comparative group (n = 15)*	*U*	*p*
	Mean (SD)	*Mean (SD)*		
FBF				
Loss of control	1.55 (2.14)	2.13 (1.85)	111.5	
Simple perception	0.65 (1.39)	1.27 (2.12)	122.5	
Complex perception	1.25 (2.00)	1.27 (1.98)	143.5	
Language	2.15 (2.18)	3.27 (3.41)	139.0	
Cognition and thought	1.50 (2.04)	3.07 (3.24)	110.5	
Memory	2.10 (2.43)	3.00 (2.10)	106.5	
Motor behavior	1.20 (1.94)	1.60 (1.35)	137.5	
Loss of automatism behavior	2.40 (2.23)	3.07 (2.99)	141.0	
Anhedonia/anguish	2.05 (2.33)	2.93 (3.22)	122.5	
Sensory overstimulation	1.50 (2.09)	1.87 (1.73)	106.5	
Total score	16.30 (18.16)	23.26 (19.22)	110.5	
Frankfurt trait	10.25 (9.89)	14.40 (11.43)	109.5	
Frankfurt state	6.10 (8.68)	9.07 (8.51)	108.0	
BPRS				
Anxiety/depression	5.85 (2.23)	8.80 (6.04)	108.5	
Thought disorder	5.05 (1.96)	6.93 (3.71)	106.5	
Anergy	5.40 (1.50)	3.73 (3.03)	122.0	
Activation	3.55 (0.83)	3.33 (0.90)	116.0	
Hostility	3.65 (1.18)	4.47 (2.77)	131.5	
Total score	29.15 (4.21)	36.07 (9.96)	96.0	0.074
SRRS: stress	377.95 (395.60)	392.33 (464.89)	135.0	
SFS				
Social withdrawal	11.80 (1.94)	10.67 (2.22)	105.0	
Interpersonal behavior	21.75 (3.43)	16.33 (4.20)	46.5	0.000
Pro-social activities	15.80 (8.61)	9.67 (8.07)	79.0	0.017
Recreation	16.15 (3.80)	13.93 (4.83)	100.5	0.099
Independence	35.45 (2.96)	30.80 (6.63)	82.5	0.023
Performance	21.75 (5.86)	18.93 (6.91)	115.5	
Total score	123.60 (15.05)	99.87 (26.73)	62.5	0.003
FQ				
Disturbing behaviors	74.60 (16.22)	85.20 (24.75)	113.5	
Family burden	22.55 (15.65)	33.20 (32.75)	136.5	
Coping ability	13.85 (19.79)	11.13 (11.20)	149.5	
FCQ				
Factor 1	30.75 (4.45)	24.73 (4.81)	53.0	0.001
Factor 2	12.05 (2.52)	9.80 (4.04)	99.0	0.093
Factor 3	15.05 (2.84)	16.60 (3.20)	105.5	

SD: desviation standard.

The application of integrated programs such as that described herein should include family intervention in its format. At present, a community intervention modality that does not incorporate this resource would be unthinkable in schizophrenia. Work with the families should be organized in relationship with a series of elements common to the different family intervention modalities and that have demonstrated their efficacy: education on schizophrenia, treatment of the emotion expressed, problem solving training, communication improvement training, reduction of interpersonal contact, extension of social networks of the relatives and adjustment of the family expectations on the patients[36]. With this integration, positive results are achieved on the clinical state of the patient, on the general stress level, on social competence and general coping and on the relapse index. Parallelly, positive family changes in the family's style of coping with the disease, on the family burden levels and on their attitudes towards it are achieved.

On the other hand, a treatment format such as that explained herein is perfectly applicable from our health care clinical settings.

In regards to the elements that make up the therapy, in our opinion, it is necessary to extend and up-date

TABLE 8. Comparison of the follow-up mean scores: Mann-Whitney U values and statistical significance

Variables	*Index group (n = 17)*	*Comparative group (n = 12)*	*U*	*p*
	Mean (SD)	*Mean (SD)*		
FBF				
Loss of control	1.41 (1.80)	1.33 (1.49)	99.5	
Simple perception	0.94 (1.75)	0.92 (1.50)	99.5	
Complex perception	1.12 (2.09)	1.08 (1.24)	87.0	
Language	1.47 (2.62)	2.92 (3.00)	73.5	
Cognition and thought	1.59 (2.24)	1.67 (2.01)	97.5	
Memory	1.88 (2.34)	2.08 (2.47)	99.5	
Motor behavior	1.23 (2.08)	1.50 (1.93)	90.0	
Loss of automatism behavior	1.71 (1.96)	2.25 (2.56)	92.5	
Anhedonia/anguish	1.18 (1.94)	2.08 (1.83)	58.0	0.053
Sensory overstimulation	1.53 (2.37)	1.00 (1.20)	100.5	
Total score	13.94 (19.10)	16.83 (15.40)	85.0	
Frankfurt trait	7.56 (9.97)	10.67 (9.80)	79.5	
Frankfurt state	6.41 (9.48)	6.17 (6.09)	96.0	
BPRS				
Anxiety/depression	6.41 (3.24)	6.33 (1.67)	83.5	
Thought disorder	5.29 (2.17)	6.75 (4.41)	92.5	
Anergy	5.29 (2.08)	6.08 (2.50)	80.0	
Activation	3.53 (1.01)	3.67 (1.30)	101.0	
Hostility	3.76 (1.75)	3.67 (1.23)	101.0	
Total score	31.12 (7.84)	33.58 (6.24)	67.5	
SRRS: stress	492.82 (396.02)	321.75 (304.69)	77.5	
SFS				
Social withdrawal	12.00 (2.85)	12.33 (2.81)	87.5	
Interpersonal behavior	20.406 (5.67)	17.00 (4.73)	60.0	
Pro-social activities	18.62 (2.48)	13.33 (10.90)	68.0	
Recreation	16.50 (5.40)	14.25 (6.05)	63.5	
Independence	34.50 (1.38)	31.92 (5.24)	67.5	
Performance	19.69 (8.39)	16.08 (7.11)	72.5	
Total score	120.69 (26.14)	103.33 (31.33)	65.5	
FQ				
Disturbing behaviors	72.62 (18.63)	71.50 (13.75)	87.5	
Family burden	18.06 (18.75)	16.58 (16.91)	91.0	
Coping ability	10.81 (11.76)	7.42 (9.34)	82.5	
FCQ				
Factor 1	26.94 (6.72)	20.75 (5.05)	34.5	0.003
Factor 2	13.12 (2.45)	14.83 (2.76)	57.5	0.074
Factor 3	13.44 (3.16)	12.25 (3.255)	74.0	

SD: desviation standard.

them. In this way, it is essential to have an assessment protocol that provides us detailed information on the fundamental areas that should be measured in schizophrenia: premorbid functioning, basic disorders, primary and secondary symptoms, basic cognitive processes, prodromic symptoms, precipitating symptoms, psychosocial stressors, coping skills, psychosocial functioning and family functioning (these include the levels of expressed emotion, objective and subjective family burden and family coping styles).

Regarding the social perception module, as is known, working with reading of social and emotional keys is essential. In this sense, only working with static visual information is quite limiting, so that the module should be extended with the inclusion of auditory (recordings of conversations without image) and audiovisual material (social scene on video). This would allow for a more detailed and profound training of the non-verbal elements of communications, key aspects for the management of emotion expression and referentiality. On the other hand, the development of new cognitive therapies for the treatment of residual psychotic symptoms and the new relationship modes with the psychotic patients that this enacts[37] should be added to these packages to enrich them and to continue increasing their action spectrum.

Finally, we feel that it is very important to advance in an adjustment process of the patient's therapy. Along this line, we believe that a type of patients that may especially benefit from this type of treatment and for whom we believe that this is especially indicated can be described. This is a patient between 18 and 40 years of age, who does not continually consume drugs (the sporadic consumer is included), who lives with his/her family and who is actively involved in the treatment, or, if such is the case, who does not obstruct or seriously distort it, who has not had long periods of hospitalization and who has a mild or moderate frontal executive deficit. In this sense, and according to the trifactorial model of cognitive deterioration proposed by Spaulding et al.[38], the schizophrenic patients without frontal executive deterioration should receive training in low redundance rehabilitation tasks, focused on stress handling, self-regulation, relapse prevention and management of symptoms and medication.

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