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INTEGRATED PSYCHOLOGICAL TREATMENT FOR SCHIZOPHRENIC PATIENTS

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The results of this study are based on a sample of 35 schizophrenic patients (20 patients in a therapy group and 15 in a control group). Subjects were randomly assigned to one of the groups. Patients assigned to the therapy group received a one-year integrated psychological program, which consisted of four IPT subprograms (Brenner et al., 1994), and psychoeducational and behavioural training sessions. Psychoeducation and behaviour therapy were also given to their family members. Patients assigned to the control group received only standard treatment for schizophrenics in outpatient settings. The basis of all comparisons between groups were pre-post measurements: data registered before and after therapy. An analysis of the mean scores of clinical and family measures indicated that the therapy group had improved to a greater extent than the control group.

El presente estudio se ha realizado con 35 esquizofrénicos (20 pacientes de un grupo de intervención y 15 de un grupo control). Todos los sujetos fueron asignados aleatoriamente a uno de dichos grupos. Los pacientes del grupo experimental fueron sometidos durante un año a un paquete integrado de intervención psicológica, que incluyó cuatro módulos de la IPT (Brenner et al., 1994), así como a sesiones de psicoeducación y terapia conductual. Al mismo tiempo, sus familiares también recibieron un programa de psicoeducación y entrenamiento conductual. Los pacientes del grupo control recibieron el tratamiento ambulatorio estándar para la esquizofrenia. Se compararon ambos grupos con medidas pre-post tratamiento, a partir de los datos obtenidos al inicio y final de la terapia. El análisis de las medias de las medidas clínicas y familiares revelaron que el grupo de intervención clínica experimentó una mejoría mucho mayor que el grupo control.

The last two decades have seen remarkable advances in the search for effective therapies for the psychological treatment of schizophrenia (Bellack & Mueser, 1993; Birchwood & Shepherd, 1992; Penn & Mueser, 1995; Penn & Mueser, 1996; Slade & Haddock, 1996), so that at the present time there exists a considerable body of data from a multitude of studies that confirm the effectiveness of different models of family treatment for the reduction of emotional expression, for decreasing relapse rates and improving clinical progress, and which, moreover, are associated with the reduction of family burden (Arévalo, 1990; Dixon & Lehman, 1995; Lam, 1991; Leff, 1996; Tarrier, 1996); with psychoeducational programs (Goldstein, 1995; Goldstein, 1996; Kazarian & Vanderheyden, 1992); with social skills training, aimed at improving behavioural aspects, symptomatology and social functioning (Benton & Schroeder, 1990; Corrigan, 1991); with coping skills, for reducing the psychological impact of the illness and controlling the positive symptomatology of psychosis (delusions and hallucinations) (Birchwood & Tarrier, 1995; Tarrier, 1996; Yusupoff & Tarrier, 1996); and with integrated treatments for improving cognitive and social functioning (Brenner et al., 1994; Brenner, Hodel, Roder & Corrigan, 1992; Roder, Brenner, Hodel & Kienzle, 1996).

Psychological treatment appears an effective procedure for reducing the impact of stressful psychotic experiences, improving patients' social functioning and reducing family stress, in conjunction with psychopharmacological treatment. It is interesting to note that in all psychological interventions some type of stress management strategy was used, aimed at helping patients and caregivers to cope more effectively with everyday problems; and this in addition to stress reduction procedures associated with concepts of expressed emotion and focused on the promotion of more tolerant behaviour and attitudes toward patients. However, the effectiveness of these approaches has been considered separately. Thus, interventions have in each case been directed towards one of the components of the problem: the family, the patient's skills (social, problem-solving,

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coping in general), positive symptomatology, or the introduction of environmental support.

Paradoxically, and in spite of the recognition that schizophrenia results from several factors and should therefore be approached in a multidimensional way, integrated treatment models have been very little used. This situation is now being remedied, with a growing consensus on the necessity to combine and integrate the different therapeutic procedures in general programs that cover all the needs presented by people with chronic mental disorders (Chambon, Marie-Cardine & Dazord, 1996; Haddock & Slade, 1996; Lehman, Carpenter, Goldman & Steinwachs, 1995; Liberman, 1993; Liberman, Vaccaro & Corrigan, 1995; Penn & Mueser, 1996). Researchers are agreed on the need to combine a series of elements, as nuclear components of intervention, among which are: *engagement* (treatment is tailored to patients' practical needs, optimum level of independence and collaboration in the process is negotiated and work is focused on their preferences), *self-management of the illness* (supporting patients' abilities to supervise and manage their disorder, preparing them for taking on a central role in the long term), *rehabilitation* (to mitigate incapacity and reconstruct patients' functional abilities, identifying their resources and increasing adaptive behaviours), and *environmental support* (collaborating with the relatives through psychoeducational interventions).

One of the few psychosocial intervention packages in schizophrenia has been developed by Brenner and collaborators, based on a model of "pervasiveness" (Brenner et al., 1994; Brenner, Hodel, Genner, Roder & Corrigan, 1992 Brenner, Hodel & Roder, 1990; Brenner et al., 1992; Roder et al., 1996), and on three fundamental assumptions: (1) that schizophrenics have deficiencies at the different functional levels of behavioural organisation; (2) that deficiencies at one level can affect the functions of others, it being assumed that they have a pervasiveness effect; and (3) that the different levels are hierarchically related.

These functional levels are considered to be organised in four categories: (a) attentional/perceptual (including basic dysfunctions in information processing); (b) cognitive level (including the formation of concepts, prelinguistic associative processes and attributions; (c) microsocial level (including basic social or functional behavioural abilities); and (d) macrosocial level (referring to different social roles). The authors that propose the "pervasiveness" model suppose that there are interactions between information processing and social behaviour, so that, on the one hand, deficits in elementary information processing reduce high-level integration processes and social behaviour; on the other, the reduction of high-level abilities hinders elementary cognitive functions, biasing attention processes and the codification of stimuli.

Supposedly, the combination of these two processes explains the beginning of symptoms, the reduction of social abilities and the mechanism through which these dysfunctions are maintained. Treatment programmes that attempt to mitigate these effects should be oriented both towards overcoming neuropsychological and cognitive anomalies and towards behavioural and social aspects.

Integrated Psychological Therapy (IPT) is a group intervention programme aimed at the cognitive and social abilities of schizophrenic patients (Roder et al., 1996; Roder, Brenner, Keppeler & Linn, 1997) that has been applied successfully to more than 700 patients. It includes five sub-programmes, designed to improve cognitive dysfunctions and social and behavioural deficits characteristic of schizophrenia. The sub-programmes involved in the intervention are ordered hierarchically, so that the first sessions are directed towards basic cognitive abilities, the intermediate ones transform cognitive abilities into verbal and social responses, and the final sessions train patients to solve more complex interpersonal problems. Each sub-programme has specific steps prescribing therapeutic tasks for the improvement of social and cognitive skills.

IPT is carried out in groups of 5 to 7 patients, in sessions of 30 to 60 minutes, three times per week, over a period of approximately three months. Table 1 specifies the clinical elements making up the package, in accordance with each sub-programme, the focus of each of

Table 1
Sub-programmes of the Integrated Psychological Therapy (IPT) (Hodel & Brenner, 1994)

Sub-programmes	Focus of intervention	Intervention techniques
Cognitive Differentiation	Attentional skills and formation of concepts	Classification of cards Exercises with verbal concepts
Social perception	Analysis of social stimuli (using slides)	Description and interpretation of social stimuli Discussion of sense of a situation
Verbal communication	Conversational skills	Verbal repetition exercises Verbal rehearsal exercises Questions Conversation on a topical issue Free conversation
Social competence	Competence in social skills	Cognitive pre-structuring of skills acquisition Role-play
Interpersonal problem-solving	Application of strategies for interpersonal problem-solving	Identification and analysis of problems Cognitive pre-structuring Transfer of chosen solution to real life situations

these and the techniques used.

Each sub-programme is conceived in such a way that, as therapy progresses, the demands on the individual gradually increase. There is a progression from simple and predictable tasks to complex and difficult ones. At the same time, the therapy moves from being quite structured initially to being fairly unstructured by the end. Furthermore, within each sub-programme, the materials used are emotionally neutral at the beginning, the emotional burden becoming greater as the programme advances.

The object of this study was to test, using a longitudinal design, the clinical utility of an integrated package of psychological intervention applied to schizophrenic patients, which includes sub-programmes of the IPT and other elements for psychoeducation and modification of the family environment.

METHOD

Subjects

The patients included in the study and their families were considered typical users of the mental health centre of the Torrelavega-Reinosa (Cantabria, northern Spain) Health Region, and had quite homogeneous sociodemographic characteristics. The selection criteria of the sample were: diagnosis as schizophrenic by the CIE-10, and without a history, therefore, of organic cerebral damage or of alcohol or drug abuse; age range 18 to 45; possibility of continuous access to the mental health centre, given that the health region covered a large and mostly rural area with some communication difficulties; living with family/relatives prepared to participate regularly in the therapeutic program. The last two criteria were fundamental for the inclusion of subjects in the therapy group. In accordance with these characteristics, an initial selection was made of 46 patients. Of these, 28 made up the treatment or experimental group, while the other 18, who received the standard treatment for schizophrenics, made up the control group. The experimental group was divided into 4 subgroups of clinical intervention (7 patients in each), of which 20 completed the programme; the control group finally included 15 patients. Characteristics of the subjects included in the study are shown in Table 2.

Materials

The integrated package of psychological intervention included the IPT modules, except the first (*Cognitive differentiation*), which was eliminated on considering that the clinical state of the patients and their basic abilities did not require specific rehabilitation of these functions. However, and given that the IPT does not include psychoeducational therapy for patients or their families, it was considered essential to complete the package with the inclusion of several sessions aimed at reducing expressed emotion and family burden, and at coping with everyday stress. The object of these extensions of the IPT was to adapt the package to the needs of schizophrenic out-patients that require attention from public mental health services.

Thus, the clinical intervention in the treatment group included the four modules of the IPT, together with two modules of psychoeducation and family behaviour therapy. Consequently, the treatment involved clinical work on three different coordinated and integrated levels, carried out with each sub-group of patients over the course of a year. At the same time, patients received the normal pharmacological treatment for this diagnosis.

All the sessions were carried out in groups of relatives and of patients, separately, at the mental health centre (Figure 1). Treatment group patients received 4 sessions of psychoeducation, plus the four IPT programme modules in the format suggested by its authors (Roder et al., 1996).

The therapeutic programme established was first tested in a pilot study, with two samples of 10 (5 in each group, experimental and control) and 30 patients (15 in each group, experimental and control), respectively. Initial results showed a clear clinical improvement of the experimental group, measured with the BPRS (*Brief Psychiatric Rating Scale*, Lukoff, Nuechterlein & Ventura, 1986), with scales of social functioning and of general stress level (Lemos & Vallina, 1996; Vallina, Lemos, García & Otero, 1997).

Table 2
Sociodemographic characteristics of treatment and control groups

Characteristics	Treatment group	Control group
Number of subjects:	20	15
Mean age:	31,5	30
Sex:		
Males	*14*	*12*
Females	6	3
Educational level:		
To age 16	*15*	*6*
To age 18	*4*	*7*
Higher education	*1*	*2*
Home situation:		
With parents	*17*	*14*
With partner	*2*	*1*
With other relative(s)	*1*	
Work situation:		
Unemployed	*8*	*3*
Pensioner	*11*	*9*
Working	*1*	*3*
Marital status:		
Single	*17*	*15*
Married	*2*	
Divorced	*1*	
Mean number of yrs. with illness	7,9	8,7

The control group was attended in the normal way by the mental health service, that is, patients were given pharmacological treatment and periodical support sessions.

Measures

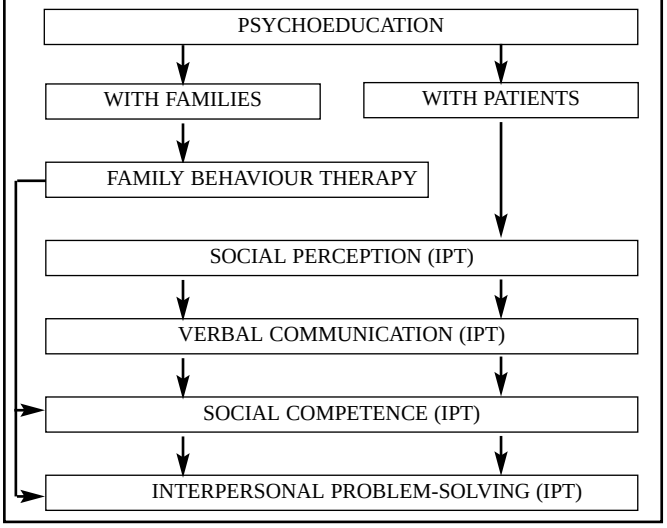
In order to assess the clinical changes in the patients and their families, the following scales were administered at the commencement of treatment and after one year, coinciding with the termination of the intervention designed for the experimental group:

1. CLINICAL STATE

1.1. Frankfurt Complaint Inventory (FBF-3) (Süllwold & Huber, 1986), in a Spanish version by Jimeno, Jimeno and Vargas (1996). This is a 98-item self-application questionnaire in which the patient assesses the presence of subjective complaints on 10 clinical scales (loss of control, simple perception, complex perception, speech, cognition and thought, memory, motor behaviour, loss of automatisms, anhedonia, and anxiety and irritability due to stimuli overload)

1.2. Expanded Brief Psychiatric Rating Scale (BPRS), a widely-used instrument, given its rapid application and its validity as demonstrated in a multitude of clinical studies. It permits the obtention of 24 clinical variables, graded for seriousness on a Likert-type 1 to 7 scale, and 5 sub-scales (anxiety-depression, thought disorders, anergia, activation and hostility), together with an overall score. The clinical assessment of patients with this instrument was carried out, not by the authors of this study, but by other specialized personnel belonging to the mental health centre team, with the aim of gaining greater objectivity based on external criteria.

Figure 1
Components of the integrated package of clinical intervention



2. STRESS LEVEL

Patients' subjective stress level was assessed by means of the self-application Social Readjustment Rating Scale (SRRS) of Holmes and Rahe (1967), requesting them to mention all the stressful life events they had experienced in the two years prior to the assessment. The score obtained with this scale is the result of the sum of a standardized weighting, applied to each type of stressful experience.

3. FAMILY MEASURES

3.1. The Social Functioning Scale (S.F.S.) (Barrowclough & Tarrier, 1992; Birchwood & Cochrane, 1990). The S.F.S was designed specifically to cover those areas of functioning that are crucial for schizophrenic people to stay in the community. The seven areas it explores are: (1) Social social engagement/withdrawal (time spent alone, initiation of conversations, social avoidance); (2) Interpersonal behaviour (number of friends, heterosexual contacts, quality of communication); (3) Prosocial activities (participation in common social activities, e.g., sports); (4) recreation (participation in common pastimes, leisure activities, hobbies, etc.); (5) Independence/competence (possessing abilities necessary for leading an independent life); (6) Independence/activity (using abilities necessary for leading an independent life); and (7) employment/occupation (involvement in productive employment or in a structured program of daily activity). In the S.F.S a distinction is made between lack of competence or ability and lack of performance, with the first referring to the absence or loss of an ability and the second to the disuse or abandonment of an available ability.

The validation of the scale was carried out with a sample of 334 schizophrenic outpatients, and was demonstrated to be reliable, valid and sensitive to patients' changes. In so far as it provided a detailed assessment of their strengths and weaknesses, it may serve as a useful guide for possible goals of the intervention, as well as for the measurement of clinical progress and development.

3.2. Family Questionnaire (FQ) of Barrowclough and Tarrier (1992). This consists of a list of 59 problems focused on the patient, with an open category of "others" for the inclusion of idiosyncratic difficulties. Relatives indicate on three 5-point Likert-type scales the frequency with which the behaviours occur, the quantity of discomfort or unpleasantness caused by these behaviours and to what extent they feel capable of coping with these difficulties.

3.3. Family Coping Questionnaire (CFQ) (Magliano et al., 1996). This questionnaire assesses the coping strate-

gies of the families of schizophrenic patients, using a 4-point scale ("always", "often", "sometimes", "never").

It consists of 27 items grouped in 7 subscales: information, (search for information on the illness and its management), positive communication (defined as the ability of relatives to react calmly to the patient's behaviour and to express appreciation toward his/her self-care and participation in family life), social interest (maintenance of social interest by the patient), coercion (aggressive reactions to the patient's altered behaviours), avoidance (of the patient by the relative), resignation, and patient's social involvement (involvement of the patient in social activities).

Factorial analysis of the items identified three factors that explain 70.9% of the total variance (Magliano et al., 1996): (1) positive coping strategies oriented towards the problem (including five subscales: patient's social involvement, positive communication, search for information, associated with low levels of resignation and avoidance); (2) strategies focused on the emotions (based on emotional reactions, it includes the subscales resignation, avoidance and coercion); and (3) maintenance of social interests associated with avoidance of the patient. This questionnaire is seen to be especially useful for the supervision and selection of family psychoeducational interventions, but may also be used as part of the general assessment of the patient's environment.

The questionnaire was validated with 142 relatives living with schizophrenic patients, within the Italian mental health services. It consists of a list of statements aimed at exploring the frequency, over the previous month, of the ways families deal with: (a) the patient's symptoms, (b) his/her behavioural disorders, (c) his/her social incapacity, and (d) the prescribed treatment.

3.4. Multifactorial Measure of Problem-Solving Style (Cassidy & Long, 1996). This is a 6-factor measure obtained through 24 items, the factors being: helplessness, control of problem-solving (with an internal-external dimension of control in problem situations), creative problem-solving style (reflects the planning and consideration of alternative solutions in the problem-solving process), confidence in the solution of problems (indicates belief in one's ability to solve problems), avoidance style and approach style (reflects a positive attitude toward problems and a tendency to tackle them).

The scale is based on the work of Nezu and Nezu (Heppner, Kampa & Brunning, 1987; Heppner & Petersen, 1982; 1991). The data demonstrate the scale to be a useful, reliable and valid measure of a family's problem-solving style.

PROCEDURE

The families of the experimental group patients attended a total of 24 therapeutic sessions, distributed in the following way: 10 psychoeducation sessions and 2 sessions of training in basic communication skills (one session per week over the first three months of the treatment); 6 sessions of training in problem-solving, following a format similar to that used by Faloon and collaborators (Faloon, Laporta, Fadden & Graham-Hole, 1993), complemented by the expression of emotions management described by Kuipers, Leff and Lam (1992) (fortnightly, during the following three months); and a behavioural treatment in 6 sessions (one per month, during the remaining 6 months), aimed at the reduction of family burden (Barrowclough & Tarrier, 1992).

The *psychoeducation module* was carried out in groups, with 10 weekly one-hour sessions for the relatives and 4 sessions of the same duration for the patients. The content of the psychoeducation sessions (identical for families and patients in the first 4 sessions) was as follows:

1st session: Schizophrenia: Causes, types and symptoms
2nd session: Vulnerability: Protection and risk factors
3rd session: Pharmacological treatment and secondary effects
4th session: Prevention of relapses: Identification of prodromal signs
5th session: How the family can be helped: Control of the family burden
6th session: Skills for living together: Fixing goals and norms
7th session: Basic skills for good communication
8th session: How to cope with special cohabitation situations
9th session: Family and self-help associations
10th session: Community resources and services

The psychoeducation sessions had an interactive format, combining a didactic exposition by the therapist with the presentation of experiences and opinions of patients or relatives, followed by the group discussion. At the beginning of the psychoeducation phase, all the families received a guide with basic information (FEAFES, 1995), which gave rise to subsequent discussion. The content was based on the NYU-Bellevue Project (Tunnell, Alpert, Jacobs & Osiason, 1988), Goldstein (1995) and Rebolledo and Lobato (1995).

The *family behaviour therapy* consisted in a replica of the behavioural procedures in work with families described in Falloon, Laporta, Fadden and Graham-Hole (1993), adapted to a group format that was multi-family and without patients. The aim of this intervention was to provide the families with the coping skills necessary for

living with schizophrenia, so that the illness caused the smallest possible burden and innocuous domestic stress levels, making the reappearance of symptoms less likely. Also, there was an attempt to establish a relationship between the families and the clinical team that would facilitate the continuity of care and optimise attendance resources, thus benefiting patients and families.

In consequence, the intervention with families had four basic categories: (1) Education about the illness; (2) Training in communication skills; (3) Training in problem-solving skills; and (4) Application of specific cognitive-behavioural abilities for coping with special situations. These components were applied sequentially, following the order described, with a highly structured format based around certain behavioural methods that included: instructions, behavioural rehearsal, modelling, social reinforcement and *in vivo* tasks between sessions.

The *sub-programmes* of the IPT used with experimental group patients were applied in the following way:

Social perception: 30 slides were used, following the format suggested by the authors (Roder, et al., 1996), in weekly sessions, with 3 slides per session. In our opinion, this module is fundamental, as it contains the essence of all the cognitive interventions included in the treatment (reception and analysis of information and emission of a selective response to the information received and analysed). The three cognitive processes are the basis of the other techniques and procedures of the intervention package.

Verbal communication: 10 sessions were programmed, one per week, which included: (a) literal repetition of sentences; (b) repetition of sentences according to their meaning; (c) self-formulated questions, with answers; (d) questioning on a given topic; and (e) free communication.

Social competence: In 24 sessions of between 60 and 90 minutes duration, two per week, training was carried out in low emotional risk skills (initiation, maintenance and termination of conversations; expressing gratitude; giving praise, expressing recognition and paying compliments; requesting information; and rejecting requests) and in those with high emotional risk (making a complaint; criticising; receiving criticism; apologising; expressing a request or wish; and initiating a shared venture). The same order and sequence was always respected, the number of sessions devoted to each skill being varied according to the difficulties and learning observed. The training method followed was adapted from Liberman, DeRisi and Mueser (1989).

Problem-solving: This consisted in the application of the procedure originally designed by D'Zurilla and Goldfried (1971) to diverse conflictive instrumental or interpersonal situations in the life of patients and/or families. The training was carried out in separate groups for patients and relatives, following D'Zurilla and Goldfried's procedure. In fortnightly sessions of 60-90 minutes, each of the components was covered, and the complete procedure was subsequently applied to the different problems introduced to the groups. Once the group exercises had been completed, the *in vivo* part was planned, and set as a goal for the following session. The content of each part corresponded to the following programme proposed by D'Zurilla (1986): (a) orientation to the problem; (b) definition and formulation of the problem; (c) design of alternative solutions; (d) decision-making; and (e) implementation of the solution and verification.

Design

In order to test the clinical utility of the integrated package of psychological intervention, an analysis was made of the pre-post treatment variations experienced by each of the two groups of patients. A comparison of means for related measures was carried out, using the Student *t* test.

RESULTS

The results show, with regard to the composition of the groups, that the experimental and control groups presented quite similar characteristics at the beginning of the treatment (Table 3). The two groups were found to be fairly homogeneous in the global measures of basic cognitive disorders, stress level and family characteristics: problem-solving styles, social functioning, behavioural disorders, subjective family burden and family coping focused on the problem and on emotions. In none of these variables were significant differences found in the intergroup analysis. A significant difference was noted, however, in the initial psychopathology of the groups, according to the assessment carried out by the attendance personnel using the BPRS; thus at the beginning of the treatment the control group presented a lower level of clinical alteration than the experimental group. This difference was not sought; rather, it occurred spontaneously after the formation of the groups. On the other hand, the families of patients belonging to the experimental group demonstrated a coping capacity superior to those of the control group patients, as well as more social interests, according to the results of the FQ (coping scale) and CFQ (Factor 3) questionnaires, respectively.

The analysis of the pre-post treatment changes, in the experimental and control groups, shows that, in accordance with the hypothesis of the study, the assessment

after the multimodal treatment showed considerable improvements in the experimental group in all the relevant clinical areas of schizophrenia, by comparison with the standard treatment (Table 4); that is, anxiety level, psychopathology, cognitive functioning, social functioning, family burden and strengthening of the personal and family coping resources. Thus, a cursory analysis shows that the experimental group improved, according to the patients' subjective assessment, in all of the symptomatological dimensions measured by the Frankfurt P Complaint Inventory, in total score (t = 4.02, p = 0.001) and in state factors (t = 4.46, p = 0.000) and trait factors (t = 3.44, p = 0.003), whilst the improvement in the control group was limited to the motor behaviour scale (t = -2.07, p = 0.057).

In the assessment carried out by the attendance personnel, using the BPRS, it was found that the experimental group also improved its symptomatology, both positive and negative, this improvement being manifested in all the factors of the scale: anxiety/depression (t = 5.31, p = 0.000), cognitive disorders (t = 4.41, p = 0.000), anergia (t = 5.34, p = 0.000), activation (t = 3.56, p = 0.002) and hostility (t = 3.52, p = 0.002), as well as in total score (t = 7.11, p = 0.000). The control group, on the other hand, only obtained significant improvement in the anxiety/depression scale (t = -2.07, p = 0.057) and in the global score.

The stress level of the experimental group showed a marked decrease (t = 3.71, p = 0.001), whilst in the control group no differences were found. Improvement was also found for maladjusted behaviours in the family questionnaire (t = 5.76, p = 0.000) and family burden (t = 4.04, p = 0.001), whilst these characteristics hardly showed any variation in the control group.

As regards social functioning, both groups presented a significant improvement in social withdrawal (t = -2.53, p = 0.021 in the experimental group, and t = -2.30, p = 0.037 in the control group), but in the experimental group this improvement extended to interpersonal functioning (t = -5.00, p = 0.000), to the active use of skills (t = -2.54, p = 0.020) and to total score on the S.F.S. scale; on the other hand, the control group improved on the recreation scale (t = 2.05, p = 0.059).

Family coping styles improved in the treatment group as regards information (t = -3.51, p = 0.004), communication (t = -5.15, p = 0.000), reduction in resignation (t=2.37, p = 0.028) and positive coping focused on the problem (Factor 1) (t =6 3.95, p = 0.001); in the control group families, meanwhile, coping styles improved in terms of social involvement (t = 3.40, p = 0.004) and also in the factor coping focused on the problem (t = 2.56, p = 0.023).

Finally, with respect to the problem-solving style presented by the experimental group families, a significant reduction was observed in feelings of incapacity (t = 1.63, p = 0.019), whilst there was an increase in attitudes of avoidance in the control group families (t = 3.57, p = 0.003).

In sum, the set of results roundly confirms that the application of the integrated package of psychological intervention to schizophrenic patients and their families brings clinical benefits, one year later, clearly superior to those observed in subjects receiving only pharmacological therapy and periodical reviews.

Table 3
Comparison of the measures obtained by treatment (n = 20) and control (n = 15) groups at commencement of the therapeutic programme

	Experimental Group		Control Group			
Variable	**Mean**	**(SD)**	**Mean**	**(SD)**	***t***	**p**
Frankfurt:						
Total score	32,15	(23,50)	21,93	(17,69)	1,41	NS
Frankfurt trait	18,35	(12,52)	12,93	(10,28)	1,36	NS
Frankfurt state	14,00	(11,33)	9,07	(8,00)	1,44	NS
BPRS:						
Total score	35,60	(10,18)	27,73	(9,59)	2,53	.016
Stress	689,40	(449,32)	402,33	(421,32)	1,92	NS*
S.F.S.:						
Total score	109,80	(23,53)	101,13	(19,99)	1,15	NS
FQ:						
FQ-Behaviours	90,10	(17,83)	86,27	(16,80)	0,65	NS
FQ-Family burden	43,55	(29,72)	35,07	(26,33)	0,88	NS
FQ-Coping	34,68	(32,03)	15,47	(11,33)	2,42	.021
CFQ:						
Factor l	26,45	(5,02)	27,00	(4,97)	-0,32	NS
Factor 2	15,30	(3,42)	15,60	(2,44)	-0,29	NS
Factor 3	12,90	(3,51)	10,27	(3,45)	2,21	.034
Problem-solving:						
Helplessness	1,35	(1,35)	1,53	(1,64)	-0,36	NS
Problem-solving control	1,75	(0,97)	2,27	(1,28)	-1,36	NS
Creative problem-solving style	2,60	(1,09)	2,33	(1,59)	0,59	NS
problem-solvingConfidence	2,30	(1,03)	2,27	(1,62)	0,07	NS
Avoidance style	2,00	(1,12)	1,87	(1,12)	0,35	NS
Approach style	2,65	(1,27)	2,47	(1,30)	0,42	NS

*p < 0.06; NS= Not significant

DISCUSSION

The empirical findings of this study reinforce the results of other research demonstrating that the combined use of psychological procedures directed toward cognitive, behavioural and social disorders and anomalies, together with pharmacological treatment, produces the best clinical results in the treatment of schizophrenia (Brenner et al., 1992; Brenner et al., 1992); at the same time, they lend validity to an integrated biopsychosocial intervention format such as the one presented here, as an appropriate method for intervention in the normal public health context in Spain.

Up to now, the different studies carried out using the IPT had shown a beneficial effect, demonstrated in the improvement of basic cognitive disorders (Brenner,

1987; Brenner, Hodel, Kube & Roder, 1987; Roder, Studer & Brenner, 1987), but the package had presented serious limitations with regard to the generalisation of this improvement to behavioural and social functioning (Hodel, Brenner & Merlo, 1990; Kraemer, Zinner, Riehí, Gehringer & Möller, 1990; Vogel, 1987) and to psychopathology (Kraemer, 1991; Roder et al., 1996). These limitations have led to new developments in the integrated psychological treatment of schizophrenia, both in its community aspect (Roder, Brenner & Zorn, 1996) and in

Table 4
Comparison of the clinical characteristics of treatment (n = 20) and control (n = 15) groups, pre- and post-treatment, and statistical significance

	Experimental Group						Control Group					
Variable	**Mean (SD) Pre-**		**Mean (SD) Post-**		***t***	**p**	**Mean (SD) Pre-**		**Mean (SD) Post-**		***t***	**p**
Frankfurt:												
Loss of control	3,15	(2,74)	1,55	(2,34)	3,11	.006	2,00	(1,96)	2,13	(1,85)	-0,28	NS
Simple perception	1,85	(2,06)	0,65	(1,58)	3,21	.005	1,40	(1,99)	1,27	(2,12)	0,38	NS
Complex perception	2,40	(2,58)	1,25	(2,17)	3,29	.004	1,73	(1,91)	1,27	(1,98)	0,81	NS
Language	4,15	(3,10)	2,15	(2,09)	3,45	.003	3,20	(2,98)	3,27	(3,41)	-0.11	NS
Cognition ant thought	3,80	(2,86)	1,50	(1,94)	4,06	.001	3,07	(2,71)	3,07	(3,24)	0,00	NS
Memory	3,65	(2,92)	2,10	(2,24)	2,82	.011	2,53	(2,45)	3,00	(2,10)	-0,62	NS
Motor behaviour	2,55	(2,53)	1,20	(2,05)	3,28	.004	1,00	(1,36)	1,60	(1,35)	-2,07	.057
Loss of automatisms behaviour	3,80	(2,85)	2,40	(2,47)	2,55	.020	2,40	(2,53)	3,07	(2,99)	-1,07	NS
Anhedonia/depression	3,60	(2,03)	2,05	(2,56)	2,79	.012	2,80	(2,21)	2,93	(3,22)	-0,22	NS
Stimuli overload	3,40	(2,96)	1,50	(2,19)	3,64	.002	1,87	(1,99)	1,87	(1,73)	0,00	NS
Total score	32,15	(23,50)	16,30	(19,38)	4,02	.001	21,93	(17,69)	23,27	(19,22)	-0,34	NS
Frankfurt trait score	14,00	(11,33)	6,10	(9,28)	4,46	.000	9,07	(8,00)	9,07	(8,50)	0,00	NS
Frankfurt state score	18,35	(12,52)	10,25	(10,12)	3,44	.003	12,93	(10,28)	14,20	(11,43)	-0,67	NS
BPRS:												
Anxiety/Depression	9,35	(3,54)	5,85	(0,74)	5,31	.000	7,20	(3,47)	9,13	(5,77)	-2,21	.04
Thought disorders	7,90	(4,22)	5,05	(0,83)	4,41	.000	6,73	(3,67)	6,93	(3,71)	-0,49	NS
Anergia	8,40	(3,17)	5,40	(1,06)	5,34	.000	6,07	(2,12)	6,73	(3,03)	-1,40	NS
Activation	5,15	(2,56)	5,55	(0,46)	3,56	.002	3,40	(1,30)	3,33	(0,90)	0,32	NS
Hostility	4,80	(1,94)	3,65	(0,35)	3,52	.002	4,33	(2,02)	4,47	(2,77)	-0,29	NS
Total score	35.60	(10,18)	23,50	(5,11)	7,11	.000	27,73	(9,59)	30,60	(9,59)	-2,96	.010
R.R.R.S. Stress score	689,40	(449,32)	377,95	(395,60)	3,71	.001	402,33	(421,32)	392,33	(464,89)	0,10	NS
S.F.S.:												
Social engagement/withdrawal	10,25	(3,41)	11,80	(1,94)	-2,53	.021	9,27	(2,43)	10,67	(2,23)	-2,30	.037
Interpersonal behaviour	16,30	(4,98)	21,75	(3,43)	-5,00	.000	15,27	(4,57)	16,33	(4,20)	-1,37	NS
Pro-social activities	15,75	(9,46)	15,80	(8,61)	-0,04	NS	12,73	(6,33)	9,67	(8,07)	1,66	NS
Recreation	15,30	(4,72)	16,15	(3,80)	-1,03	NS	15,53	(5,01)	13,93	(4,83)	2,05	.059
Independence-competence	33,10	(6,87)	35,45	(2,96)	-1,52	NS	30,13	(6,42)	30,80	(6,63)	-0,52	NS
AIndependence-performance	18,35	(6,74)	21,75	(5,87)	-2,54	.020	18,53	(5,56)	18,93	(6,91)	-0,23	NS
Total score	109,80	(23,53)	123,60	(15,04)	-3,03	.007	101,13	(19,99)	99,87	(26,73)	0,25	NS
FQ:												
Distrurbing Behaviours	90,10	(17,83)	74,60	(16,22)	5,76	.000	86,27	(16,80)	85,20	(24,75)	0,30	NS
Family burden	43,55	(29,72)	22,55	(15,65)	4,04	.001	35,07	(26,33)	33,20	(32,75)	0,30	NS
Coping ability	34,68	(32,03)	11,74	(17,86)	3,63	.002	15,47	(11,33)	11,33	(11,01)	1,15	NS
CFQ:												
Information	5,35	(1,90)	6,95	(1,32)	-3,31	.004	4,33	(2,06)	4,27	(2,02)	0,56	NS
Positive Communication	14,50	(3,02)	17,35	(2,23)	-5,15	.000	16,33	(3,70)	15,53	(3,27)	1,21	NS
Social interest	11,65	(2,94)	12,25	(2,45)	-1,45	NS	10,27	(3,45)	9,80	(4,04)	1,10	NS
Coercion	8,45	(1,67)	8,20	(1,70)	0,79	NS	8,60	(1,96)	8,87	(2,17)	-0,69	NS
Avoidance	3,60	(1,23)	3,40	(1,89)	1,71	NS	3,20	(0,56)	3,40	(0,74)	-1,38	NS
Resignation	4,15	(1,46)	3,35	(1,42)	2,37	.028	3,80	(1,74)	4,33	(1,76)	-1,47	NS
Patient´s Social involvement	6,65	(1,69)	6,95	(1,79)	-0,97	NS	6,33	(1,72)	4,93	(1,75)	3,40	.004
Factor l	26,45	(5,02)	30,75	(4,45)	-3,95	.001	27,00	(4,97)	24,73	(4,82)	2,56	.023
Factor 2	15,30	(3,42)	14,55	(3,35)	1,92	NS	15,60	(2,44)	16,60	(3,20)	-1,43	NS
Factor 3	12,90	(3,51)	12,55	(2,46)	0,61	NS	10,27	(3,45)	9,80	(4,04)	1,10	NS
Problem-solving:												
Helplessness	1,35	(1,35)	0,95	(0,94)	1,63	.019	1,53	(1,64)	1,40	(1,68)	0,69	NS
Problem-solving Control	1,75	(0,97)	2,40	(1,18)	-2,56	NS	2,27	(1,28)	1,67	(1,54)	1,87	NS
Creativity problem-solving style	2,60	(1,09)	3,05	(1,19)	-1,31	NS	2,33	(1,59)	2,20	(1,52)	0,38	NS
Problem-solving Confidence	2,30	(1,03)	2,80	(1,28)	-1,60	NS	2,27	(1,62)	1,80	(1,57)	1,02	NS
Avoidance style	2,00	(1,12)	1,60	(1,35)	1,36	NS	1,87	(1,12)	2,53	(0,99)	-3,57	.003
Approach style	2,65	(1,27)	3,00	(1,34)	-1,02	NS	2,47	(1,30)	2,33	(1,05)	0,62	NS

NS= Not significant

its clinical format and procedures (Kraemer, Dinkhoff Awiszus & Möller, 1994; Schaub, Andres, Brenner & Donzel, 1996). These innovations have involved the inclusion of more molar intervention strategies, based on the beneficial "top-down" influence of behavioural and social procedures on cognitive functions, and explained by the improvement in perceptual skills, information processing and responses, which these treatments include as their main backbone (Liberman & Green, 1992).

The new clinical procedures include the IPT, psychoeducation and the incorporation of families in the treatment. Our programme subscribes to this new line of clinical development. The good results it obtained appear to coincide with the presence, in our method, of the requirements that Liberman, Vaccaro and Corrigan (1995) set down as essential ingredients that psychosocial interventions should include for guaranteeing effectiveness: (1) that they contain practical elements for the solution of everyday problems and are guided towards specific realisable goals; (2) that they are based on a continuous positive relationship between the clinician, the patient and the family; (3) that they are of long duration, not less than 12 months; (4) that they are focused on environmental stressors and on personal deficits related, in each case, to relapse and poor adaptation in the community; and (5) that they have a multimodal and integrated orientation.

The solid improvements obtained with our integrated treatment model, one year after the beginning of the clinical intervention, allow us to foster the hope that they might be maintained over time; whether or not they are will be the object of study in more long-term follow-ups.

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