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Improving clinical symptoms, functioning, and quality of life in chronic schizophrenia with an integrated psychological therapy (IPT) plus emotional management training (EMT): A controlled clinical trial

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ABSTRACT

Objective: This paper describes the results of testing a multi-component psychological therapy that includes integrated psychological therapy (IPT), together with an adaptation of emotional management therapy (EMT), versus treatment as usual (TAU), delivered in a community mental health setting for individual with chronic schizophrenia. We investigated the effectiveness of a psychological intervention on clinical symptoms, cognitive and social functioning, as well as the feasibility of treatment and its acceptance. **Method:** 77 outpatients were recruited, 42 in the experimental group, who were treated with IPT + EMT, and 35 participants in control condition (TAU), both during 8 months. The subjects of both groups were assessed pre and postreatment. **Results:** Treatment attendance was 98% in experimental group and none of patients required hospital admission during therapy, meanwhile 11 patients from the TAU group withdrew and 3 were hospitalized during therapy. After therapy, patients in the experimental group compared to TAU, reduced clinical symptoms and improved cognitive functioning and quality of life. **Conclusion:** Psychological therapy seems to be a feasible intervention even in the chronic stages of the disease

Keywords: chronic schizophrenia; integrated psychological therapy; emotional management; community mental health setting; intervention research

Clinical or methodological significance of this article: This is the first study to combine Integrated Psychological Treatment (IPT) with an adaptation of the Emotional Management Therapy (EMT) for chronic schizophrenia in Spain. The inclusion of psychological programs as adjunct to pharmacological treatment in chronic schizophrenia is useful for improving global functioning in community mental health setting. Acceptance and adherence to treatment was very high (98%) and the intervention seems to represents a process of acclimatization towards full social and occupational integration of patients who previously had reject to participate in more intense social resources. This study is a controlled clinical trial carried out in a public mental health setting.

Introduction

Schizophrenia is possibly the most psychologically debilitating psychiatric illness. In social and economic terms, it is the 13th most expensive illness according to the World Bank and its burden was estimated to range from 0.02% to 1.65% of the gross domestic product (Choug et al., 2016). It affects all aspects of life and causes several kinds of disability (Switaj et al., 2012).

In terms of signs and symptoms, individuals with schizophrenia have positive, negative, cognitive, and affective symptoms, a lack of awareness of their illness and poor social functioning (Lysaker, Buck, Salvatore, Popolo, & Dimaggio, 2009). To date,

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research focusing on genetic factors and premorbid stages of the illness has led to the use of dimensional rather than categorical criteria to describe the condition. This gave rise to the clinical staging model, which focuses on the analysis of the course of the illness and proposes various stages, from prodromal and first episode to relapses and, subsequently, stable phases. Phase 4 or chronic schizophrenia corresponds to the most stable phase of the illness (Agius, Goh, Ulhaq, & McGorry, 2010; McGorry, 2010a, 2010b; Ruiz-Iriondo, Salaberría, & Echeburúa, 2013), characterized by severe negative or residual symptoms such as blunted expression of emotions and feelings, formal thought disorder, lack of energy, apathy and anhedonia, social amotivation, and cognitive deterioration, with problems in concentration and attention, and a particular impact on social outcomes. At this phase of the illness, the treatment goal is to improve quality of life and achieve some level of independence (McGuire et al., 2014).

The use of antipsychotics medicines remain the primary treatment of schizophrenia (National Institute for Health and Clinical Excellence, 2014), specially for acute phases. For the stable phases, the application of psychological treatments, as an adjunct to pharmacotherapy, is recommended. The psychological interventions with the most empirical support are those based on cognitive behavioral techniques seeking to improve emotional problems, as well as to manage psychosocial stress, associated behavioral problems, and refractory symptoms (Australian Psychological Society, 2018; Birchwood, Shiers, & Smith, 2014; Burns, Erickson, & Brenner, 2014; Jones, Hacker, Cormac, Meaden, & Irving, 2012; Turner et al., 2018). An example of this type of intervention is integrated psychological therapy (IPT) (Brenner et al., 1994), which has been manualized and widely replicated, with positive results in the stable phases of schizophrenia (Barlati, Valsecchi, Galluzo, Turrina, & Vita, 2018; Mueller, Schimdt, & Roder, 2013; Mueser, Deavers, Penn, & Cassisi, 2013), in experimental conditions (Roder, Mueller, & Schmidt, 2011; Roder, Mueller, Mueser, & Brenner, 2006), and in clinical settings (Aloi et al., 2018; Barlati et al., 2018; Rakitzi, Georgila, Efthimiou, & Mueller, 2016). IPT reduced symptom severity and improved neuropsychological and psychosocial functioning (Mueller et al., 2013; Roder et al., 2006; Roder et al., 2011; Vallina & Lemos, 2001).

IPT combines training in social skills and cognitive remediation and has proven to be more effective than other cognitive programs applied separately (Roder et al., 2006). The therapy is designed to be used in a group format and consists of a five-level structured and hierarchical program, with a focus on improving basic and social skills. The first two levels address basic cognitive processes like attention, perception and memory, while the other three include activities such as the acquisition and improvement of social and problem-solving skills (Lemos et al., 2004; Mueller et al., 2013).

Individuals with chronic schizophrenia may also have difficulties handling emotional information and recognizing and managing emotions, leading to social isolation (Jaramillo, Ruiz, & Fuentes, 2011; Kohler, Walker, Martin, Healey, & Moberg, 2010; Underwood, Kumari, & Peters, 2016). Indeed, it has been found that patients have impaired processing of facial expressions, especially for the interpretation of negative emotions such as sadness, anger and fear (Bellack, Blanchard, & Mueser, 1996; Hooker & Park, 2002) because they often perceive emotionally neutral situations as negative or even threatening (Combs et al., 2009; Pinkham, Bresinger, Kohler, Gur, & Gur, 2011).

The program for emotional management training (EMT) emerged in response to the need to address such emotional difficulties (Hodel, Brenner, Merlo, & Teuber, 1998; Hodel, Kern, & Brenner, 2004). It was designed to help individuals develop and refine specific strategies to cope with the impact of stress, anxiety and difficulties associated with the processing of emotional information. This intervention not only addresses deficiencies in the perception of emotional stimuli, but also analyses the functional consequences of these deficiencies in patients' psychosocial adaptation (Briand et al., 2005; Briand et al., 2006; Cho & Jang, 2019; Won, Lee, Lee, & Choi, 2012). In short, EMT is an intervention for emotional problems which aims to reduce the influence of disturbing emotional states on cognitive and social functioning by training patients in the recognition of emotional states, analysis of negative emotions (fear, sadness and anger) and learning and implementation of adaptive emotion-regulation strategies, such as relaxation techniques, behavioral activation, time-out and, problem-solving skills to improve daily functioning.

EMT program has the same format as the IPT. It addresses three levels: (1) evaluation of emotional expression; (2) analysis of participants' maladaptive coping strategies that may interfere with social functioning; and (3) learning and acquisition of more adaptive strategies to manage emotions. The IPT program is aimed to improve neurocognition, and EMT to improve social cognition, both are applied together to achieve better social functioning in patients with chronic schizophrenia.

The objective of the study was to assess the effectiveness of IPT (Roder, Brenner, Hodel, Kienzle, & Fuentes, 2007) together with the EMT program

(Hodel et al., 2004) in the improvement of symptoms, neurocognition, social functioning and quality of life in a sample of outpatients with chronic schizophrenia. Our main hypothesis is that patients treated with IPT + EMT will obtain better results than patients of treatment as usual (TAU) condition in clinical symptoms, cognitive performance (e.g., attention, memory and verbal comprehension), social functioning and quality of life, as assessed through specific tools. The combination of treatments applied in this study has not been used before in Spain and, as such, it is an innovative approach applied in daily clinical practice.

Method

Participants

Subjects were recruited among users of the Public Mental Health Services in three centers, and were diagnosed with chronic schizophrenia by psychiatrists according to the diagnostic criteria of the 10th Revision of the International Classification of Diseases (ICD-10) (World Health Organization, 1992).

One-hundred fifteen outpatients who met the following inclusion criteria were referred to the study by their psychiatrists:

(1) Being aged between 25 and 65 years, with ≥5 years since illness onset
(2) Being in a stable phase of the illness and under psychopharmacological treatment
(3) Having residual negative and/or positive symptoms
(4) Failing to achieve premorbid functioning in terms of education, work and/or social life
(5) Having no diagnosis of mental retardation or associated neurological disorders
(6) Agreeing to participate in the study and giving written informed consent.

Of these 115 outpatients, 77 agreed to participate in the study and gave written informed consent. They were assigned to one of two treatment groups: (a) the experimental group ($N = 42$), which received IPT with EMT, composed of 60 group sessions twice a week for 32 weeks, in addition to TAU; and (b) the control group ($N = 35$), which received only TAU prescribed by the psychiatrist without psychological intervention (Figure 1).

Study Design

This controlled clinical trial used a two-group experimental design. Participants were randomized according to the order of arrival, matching them by diagnosis, duration of illness and pharmacological treatment (type and number of psychotropic drugs), using a stratified and adaptive strategy.

Treatment

Participants in the control group ($n = 35$) received TAU, which consisted of taking psychotropic drugs provided by psychiatrists, regular visits to the mental health center and, in many cases, social and leisure activities in a daycare center integrated in a community mental health setting. This was available daily (except for weekends) for 5 h a day (9.00–14.00 h) and did not involve psychological treatment. This standard treatment lasted the same number of weeks as the experimental treatment.

Participants in the experimental group ($n = 42$) also received the standard treatment (TAU) plus the intervention program (IPT + EMT). The IPT is a group-based, structured cognitive behavioral program that integrates cognitive remediation and psychosocial rehabilitation (Barlati et al., 2018; Brenner et al., 1994). It was run for groups of 4–6 patients and consisted of 60–90-minute group sessions twice a week over a period of 8 months (50 sessions in total) in a community mental health setting. The therapy was conducted following the Spanish manual of Roder et al. (2007).

For this research, we implemented a modification of Hodel et al.'s (Hodel et al., 1998; Hodel et al., 2004) original Emotional Management Training program, which was adapted to the Spanish culture. The rationale is that people with schizophrenia have severe deficits in emotional processing that can interfere with their interpersonal relationships and psychosocial functioning.

EMT aims to reduce the influence of disturbing emotional states on cognitive and social functioning by training patients in the recognition and analysis of negative emotions (fear, sadness, and anger) and learning adaptive regulation strategies. The EMT program is delivered to small groups (4–6 people) with the support of a therapist and a co-therapist. Each 90-minute session was provided twice a week for a total of 5 weeks during 10 sessions.

The therapists were two clinical psychologists with postgraduate qualifications in CBT, expertise in the treatment of chronic schizophrenia, and training in evidence-based psychological therapies for schizophrenia (IPT) with an intensive course of 60 h from senior clinical psychologists with recognized expertise in IPT at a national level.

Table I presents a summary of the IPT (Roder et al., 2007) and the Emotional Management Training program used in this research.

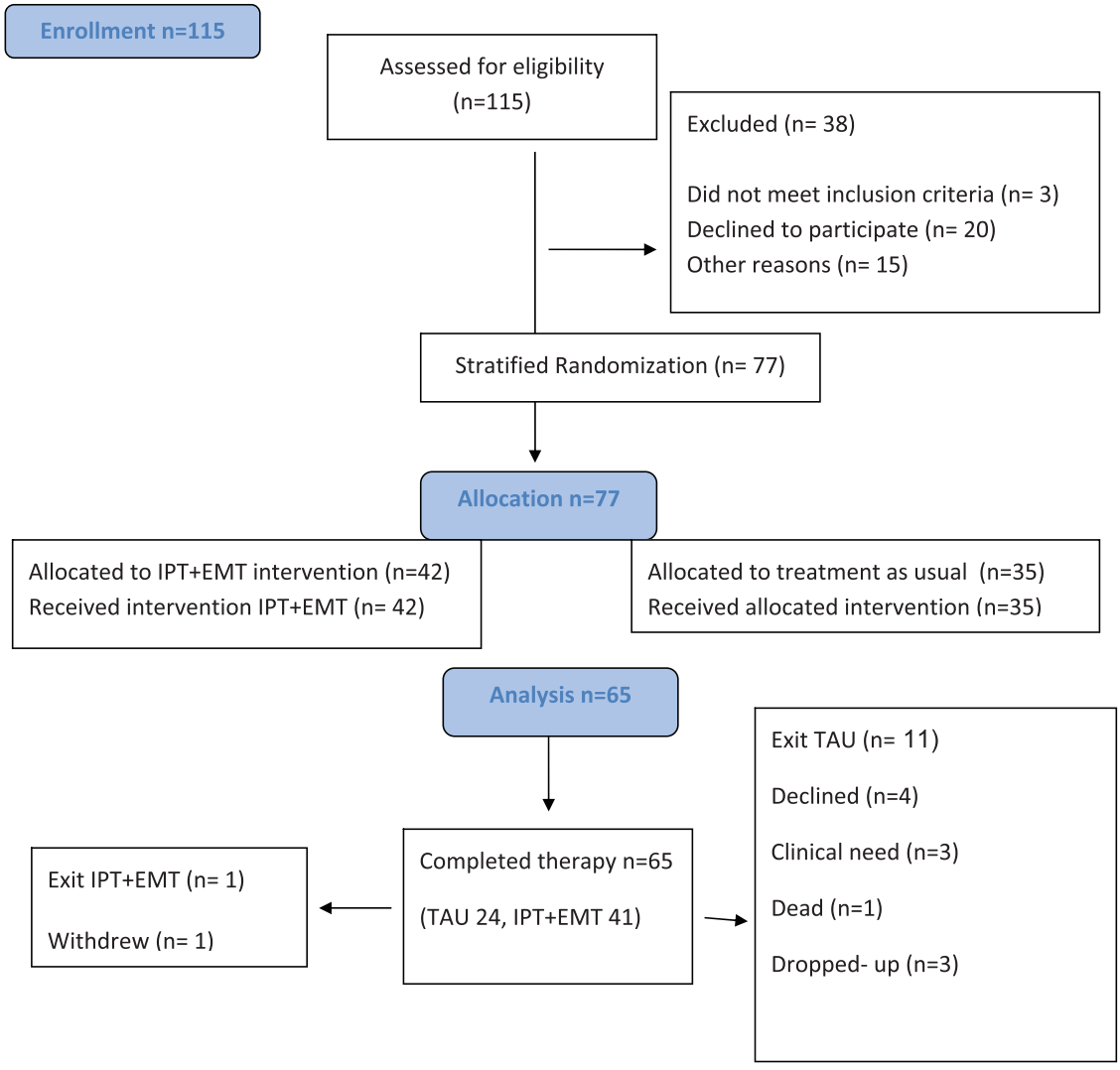

Figure 1. CONSORT diagram illustrating participant flow through the controlled clinical trial.

The therapists followed the IPT clinical manual in Spanish, where the content of each session is described. Weekly meetings with the directors were held to discuss its development and difficulties and incidents in the treatment fidelity.

Measures

General assessment. We carried out an interview to collect sociodemographic data and patients' clinical history record.

Symptom Assessment

Brief Psychiatric Rating Scale (BPRS) (Overall & Gorham, 1962; Spanish version by Peralta & Cuesta, 1994). This is an interviewer-rated measure with 18 items scored on a Likert-type scale ranging from 0 (*absence of symptoms*) to 4 (*very severe symptoms*). This Spanish version assesses positive and negative symptoms, and total score.

Cognitive Performance

Screen for Cognitive Impairment in Psychiatry (SCIP) (Pino et al., 2008; Pino et al., 2006; Purdon, 2005). This test is a performance-based measure that assesses cognitive impairment in five areas: immediate and delayed verbal learning, working memory, verbal fluency and information-processing speed. The test-retest reliability ranged from .74 to .90, and Cronbach's alpha was .73.

Wechsler Adult Intelligence Scale-Third Edition (WAIS-III) (Wechsler, 1999). The short form of this scale for use with schizophrenia patients was employed (Blyer, Gold, Iannonne, & Buchanan, 2000; Lin et al., 2014). In clinical patients, scores on these short forms correlate (.91) with the overall

Table I. Integrated Psychological Therapy (IPT) + Emotional Management training (EMT).

Subprograms	Focus of the intervention	Techniques
Cognitive differentiation (10 sessions)	Attentional skills Concept formation	Card sorting Exercises of verbal concepts
Social perception (10 sessions)	Analysis of social stimuli	Description and interpretation of social stimuli Discussion of the meaning of the situation
Verbal communication (10 sessions)	Conversation skills	Verbal repetition exercises Similar repeat exercises Development of questions Conversation on a current topic Free conversation
Social skills (10 sessions)	Social skills	Work on thoughts Social behavior training Role-playing
Interpersonal problem solving (10 sessions)	Interpersonal problem solving strategies	Identification and analysis of problems Identification and discussion of maladaptive ideas Generalization in everyday
Emotional management training (10 sessions)		
Session 1	Reducing the influence of negative emotions	Knowledge about emotions in daily life Psychoeducation
Sessions 2-3-4	Analysis of negative emotions	Recognizing sadness, anger and fear in themselves and in others (psychoeducation and functional analysis)
Sessions 5–6	Coping with negative feelings	Sharing experiences with negative emotions and acquiring knowledge of adaptive and maladaptive emotional management strategies (psychoeducation and self-reports)
Sessions 7–8	Practicing adaptive emotional techniques	Evaluating the stressful event that caused a negative emotion. If the event can be changed problem-solving techniques will be used (modeling and practice) If the stressful event cannot be changed, strategies to reduce distress, such as distraction, self-control and targeting will be used (modeling and practice)
Session 9–10	Learning activation control techniques	Introduction to the benefits of practicing relaxation techniques to reduce stress (relaxed breathing and Jacobson's progressive relaxation)

intelligence quotient (IQ) of the full scale (Fuentes, Romero, Dasí, & Ruiz, 2010).

Wisconsin Card Sorting Test (WCST) (Heaton, Chelune, Talley, Kay, & Curtiss, 1993). This performance-based test assesses attention span, planning and execution and hence, is considered a valid measure of executive function. We used Spanish version standardized and validated by TEA Editions. We took into consideration the direct scores according to the instructions in the test manual and the suggestions of The Nuffield Foundation (2008).

Psychosocial Functioning and Quality of Life

Social Functioning Scale (SFS) (Birchwood, Smith, Cochrane, Wetton, & Copestake, 1990). We used the short version of this self-report scale, validated in a Spanish clinical sample. The original 78 items were reduced to 15, this short form have a Cronbach's alpha of .76 (Alonso et al., 2008).

Lancashire Quality of Life Profile (LQoLP) (Oliver, Huxley, Priebe, & Kaiser, 1997; Spanish version by Vázquez-Barquero et al., 1997). This self-report assesses patients' satisfaction with various aspects of their life, as well as global well-being.

Procedure

This study was evaluated and approved by the Ethics Committees of the University and the Public Health Services (CEISH/63/2011) and conducted in accordance with the Declaration of Helsinki (World Medical Association, 2013).

Participants were assessed by a clinical psychologist (the first author), after being informed of the objectives of the study and giving informed consent to participate. Consenting participants were individually assessed in three sessions at their usual mental health center. The assessor was not blind to condition.

Data were collected following the assessment protocol implemented at baseline and at the end of the active intervention phase (8 months). The program was provided at no charge to the participants.

The trial [NCT 03275909] was registered retrospectively (statutory registration of pilot studies was introduced after study commencement), but the design was unchanged as of the funding application.

Data Analysis Plan

Analyses were performed using Statistical Package for Social Sciences (SPSS, v 23; IBM Corp, 2013).

Sim and Lewis' (2012) recommendation of including 24–50 participants per group was taken into account to calculate the sample size.

Data were first explored using descriptive statistics: means and standard deviations for quantitative variables and frequencies and percentages for qualitative variables. Differences between the two intervention groups were analyzed using a chi-square test (or Fisher's test where $n < 5$) for categorical variables, and ANCOVA Test (with pretreatment scores as covariates) for two independent conditions (experimental-control). The partial eta squared (η^2) and Morris (2008) standardized mean difference effect size were calculated in order to estimate the magnitude of the difference between groups. Within-group differences between pre- and post-treatment were explored through *T*-Test for repeated measures and the standardized change score index (Morris & DeShon, 2002) to calculate effect size was carried out. Values of .20, .60, 1.2 and >1.2 can be generally categorized into slight, small, moderate and large effect size, respectively (Cohen, 1988).

Results

Sociodemographic and Clinical Characteristics

The average age of the participants was 43.69 years ($SD = 9.03$); the sample was composed mainly of men (68.8%); approximately 90% were single, and 88.3% did not have children. In relation to educational level, more than half the participants had completed only primary school (36.4%) or vocational training (35.1%). As for their employment situation, 72.7% were registered as disabled or retired and only 20% were economically active, in most cases, in sheltered jobs. Participants had a mean duration of illness of approximately 18 years, and 3 or more psychiatric admissions. The most common subtype, according to ICD-10 criteria (WHO, 1992), was paranoid (diagnosed in about 50% of the participants), followed by residual (in almost 20%) schizophrenia. The groups were homogeneous in sociodemographic and clinical characteristics, except in employment ($\chi^2_{(4)} = 11.86$, $p = .02$; $V = 0.39$), because there are more active patients within the control group.

The mean age of onset of the illness was 26.08 years in women and 24.25 years in men. No significant group differences were found in any of the variables related to medical history or to medication patterns. The main component of TAU was the use of psychotropic drugs. 95% of the participants took atypical antipsychotics (A.A), mainly olanzapine, risperidone, and quetiapine. The most common medical guideline, although each patient had a personalized treatment, was the combination of an A.A with anxiolytics. There were no significant differences between the experimental and TAU group in the psychopharmacological treatment (number and type of drugs) ($\chi^2_{(4)} = 2.74$, $p = .60$). All participants continued taking medication along the duration of the study.

Effectiveness of Multicomponent Psychological Intervention

Out of the 42 participants in the experimental group, all but 1 (98%) completed the treatment. The *mean attendance at treatment* sessions of these 41 patients was 80%, suggesting high compliance amongst the group. During the treatment period (eight months), none of the participants in the experimental group required hospital admission. This contrasts with the course of illness in the 35 participants in the control group because, between the assessment at pretreatment and the next 8 months, 11 patients dropped out of the study, and 3 were hospitalized. Thus, the drop-out rate in the experimental condition was 2.38%, and in the TAU condition, it was 31.43%.

Between-groups differences in post-treatment are shown in Table II. Regarding clinical symptoms (BPRS), patients in the experimental group statistically and significantly reduced the presence of symptoms when compared to the control group of TAU patients which worsened, with moderate to large effect sizes. Concerning cognitive performance, the participants' scores were below normative reference values in all the areas assessed using the *SCIP* (Gómez-Benito et al., 2013), and pre-treatment group differences were nonsignificant. At post-treatment, compared to the TAU group, patients who received IPT + EMT showed a statistically significant improvement in their performance in immediate verbal learning (VLT-I), with a moderate effect size. Regarding the cognitive functions evaluated with WAIS-III and WCST, significant post-treatment differences were found only in the WAIS-III Similarities subtest. Specifically, the experimental patients significantly increased their performance in abstraction capacity and verbal comprehension in comparison to TAU, with a medium or moderate effect size. In other WAIS subtests, experimental patients obtained better results than controls, but the differences did not reach significance. A similar pattern was observed in the assessment of executive functions of the WCST, namely, group differences were nonsignificant, although the participants in the

Table II. Between-group differences after treatment.

	PRE				POST							
	IPT-EMT $N = 42$		TAU $N = 35$		IPT + EMT $N = 41$		TAU $N = 24$					
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*ANCOVA F*	*p*	Partial η^2	d^1 (Morris, 2008)
Clinical Symptoms												
BPRS-Total (0–72)	19.74	5.10	24.91	5.46	19.07	4.58	27.63	6.90	223.70	.000	.87	0.64
BPRS-Positive (0–16)	3.98	2.67	4.71	2.26	2.63	1.74	5.42	2.39	49.95	.000	.62	0.91
BPRS-Negative (0–16)	8.00	2.37	8.69	1.74	8.02	2.33	10.38	2.06	32.27	.000	.52	0.71
Cognitive performance												
SCIP (VLT-I)	14.71	5.09	14.86	4.39	16.29	4.05	13.92	4.72	23.26	.000	.43	0.53
WAIS-III (Similarities)	8.90	3.24	9.51	1.82	10.12	1.86	9.00	1.47	35.14	.000	.53	0.65
Social Functioning												
SFS-Leisure activities	0.93	0.99	0.80	0.99	1.02	1.01	1.83	0.96	9.21	.021	.22	−0.94
SFS-Work activities	3.62	0.49	3.71	0.47	3.56	0.55	2.92	0.28	41.95	.000	.57	1.51
Quality of life												
LQoLP-Safety	10.02	2.84	10.17	2.18	11.05	2.36	9.38	1.84	7.45	.001	.19	0.70

Note. IPT + EMT: Integrated Psychological Therapy + Emotional Management Training; TAU: treatment as usual; BPRS: Brief Psychiatric Rating Scale; SCIP: Screen for Cognitive Impairment in Psychiatry; VLT-I: Verbal Learning Test Immediate; WAIS-III: Wechsler Adult Intelligence Scale-third edition. SFS: Social Functioning Scale; LQoLP: Lancashire Quality of life profile.
d^1 (Morris, 2008): Standardized mean difference effect size. By convention *d* was coded such that positive sign indicated that experimental group improves more than the control group.

experimental group gave more correct answers and made fewer errors after IPT + EMT therapy.

At pre-treatment, the level of social functioning assessed with the SFS scale was found to be above the normative reference values for the total score ($M = 20.74$, $SD = 6.1$) obtained for the Spanish version of the scale (Alonso et al., 2008), with no group differences. The lowest and highest scores were found in Prosocial Behavior and Execution subtests, respectively (see Table IV). Despite the lack of significant between group differences in the total SFS score, participants in the control group reported significantly more leisure activities than those in the experimental group, but the experimental group showed statistically significant differences in the work subtest, reporting more work activities than the control group in post-treatment. The effect sizes were slight both for leisure activities, in favor of the control group, and were large for work activities favoring the experimental group. Regarding quality of life indicate that the patients of the experimental group reported more feelings of safety than the control group after treatment, with a moderate size effect.

Pre-post within-group analysis of psychiatric symptoms (Table III) showed that TAU participants obtained significantly worse outcomes in total psychotic and negative symptoms on the BPRS with small to moderate effect size. On the contrary, the participants in the experimental group reduced their scores in the positive symptoms subscale with moderate effect size.

Pre-post within-group analyses of cognitive performance (Table III) showed that, after treatment, the experimental group improved in most of the variables evaluated by the SCIP. The cognitive functioning of the patients who received IPT + EMT also improved in WAIS and WCST, whereas the participants of the control group did not show any improvement after treatment.

The within-group analysis of social functioning (Table IV) showed that, after treatment, the participants of the experimental group improved in Isolation, Prosocial Behavior, and overall score of the SFS, whereas the patients of the control group improved in Leisure activities and worsened in Work activities. Regarding quality of life, participants in the experimental condition improved in Work and Safety, whereas the TAU participants' Leisure and overall LQoLP scores decreased.

The mean of all effect sizes, calculated with total scores of measures, in experimental group was 0.51 (range 0.14–1.01) and −0.25 (range −0.97–0.16) in TAU group. This results were congruent with effect size 0.47 (pre vs. post IPT therapy) reported by Briand et al. (2006) and with effect size 0.52 for IPT and −0.01 for standard care reported by Roder et al. (2011).

Discussion

This is the first study to evaluate the efficacy of this combination of interventions (IPT + EMT) in

Table III. Within-group differences after treatment on BPRS and cognitive performance.

		PRE				POST									
		IPT + EMT $N = 42$		TAU $N = 35$		IPT + EMT $N = 41$		TAU $N = 24$		IPT + EMT Pre-post			TAU Pre-post		
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*p*	*ES*[1]	*t*	*p*	*ES*[1]
BPRS															
Total (0–72)		19.74	5.10	24.91	5.46	19.07	4.58	27.63	6.90	1.68	.10	−0.32	−3.66	.00*	0.97
Positive symptom (0–16)		3.98	2.67	4.71	2.26	2.63	1.74	5.42	2.39	3.96	.00*	−0.71	−1.19	.25	0.41
Negative symptom (0–16)		8.00	2.37	8.69	1.74	8.02	2.33	10.38	2.06	−0.30	.76	0.01	−4.08	.00*	1.07
SCIP Cut point															
VLT-I	<18.83	14.71	5.09	14.86	4.39	17.02	4.05	13.92	4.72	−2.19	.03*	0.57	0.49	.62	−0.24
WMT	<17.10	15.57	4.94	16.69	5.52	17.10	3.97	16.71	4.58	−3.10	.00*	0.53	0.39	.70	0.00
VFT	<15.13	13.83	4.48	15.40	4.57	14.93	4.58	15.96	5.20	−1.70	.09	0.31	−0.82	.42	0.12
VLT-D	<5.17	2.36	2.31	2.89	2.04	3.22	2.34	2.96	2.44	−2.85	.00*	0.47	−1.34	.19	0.03
PST	<9.25	6.79	2.46	7.17	2.49	7.37	2.60	7.08	3.81	−1.70	.09	0.27	−0.16	.87	−0.02
Total	<65.5	53.07	14.86	56.71	13.16	57.49	15.61	56.63	13.81	−2.69	.01*	0.47	−0.46	.65	−0.00
WAIS-III															
Similarities		8.90	3.24	9.51	1.82	10.12	1.86	9.00	1.47	−3.58	.00*	0.69	1.90	.07	−0.63
Arithmetic		7.68	2.53	7.37	2.47	8.17	2.42	7.88	2.03	−1.35	.18	0.21	−0.69	.49	0.31
Digit Span		8.73	2.65	8.11	2.74	9.05	2.41	8.17	2.62	−1.20	.24	0.19	−1.03	.31	0.04
Information		8.80	3.04	9.37	2.25	9.73	2.22	9.92	2.47	−3.05	.00*	0.63	−0.75	.46	0.34
Picture completion		8.51	2.85	8.94	2.11	10.00	3.08	9.21	2.43	−3.86	.00*	0.57	0.16	.87	0.10
Block design		7.98	2.50	7.83	1.90	8.76	2.55	8.38	2.35	−2.25	.03*	0.35	−0.50	.62	0.23
Digit Symbol coding		5.41	2.00	6.17	2.24	7.10	1.90	7.00	2.19	−4.90	.00*	0.91	−0.67	.51	0.44
CI		84.00	12.11	87.38	9.94	91.29	11.25	86.71	11.60	−6.37	.00*	1.01	0.53	.60	−0.11
WCST Range															
Nr of trials	0–128	117.5	16.86	116.7	15.70	112.2	20.7	114.2	21.11	−0.12	.90	−0.41	1.18	.25	−0.17
Nr categories	0–6	4.40	1.78	4.26	1.97	4.46	1.86	4.38	1.71	2.33	.02*	0.04	−0.42	.67	0.06
Nr of correct answers	34–98	74.57	12.17	73.2	14.25	74.76	12.86	72.33	12.80	−0.21	.83	0.01	0.74	.47	−0.06
Nr of errors	10–94	42.88	19.06	43.4	22.34	36.39	21.95	41.96	21.66	2.63	.01*	−0.42	0.34	.73	−0.07
Nr of perseverative errors	1–58	19.12	12.13	15.94	12.52	13.05	11.67	14.17	12.25	4.39	.00*	−0.68	0.71	.48	−0.16

Note. Cut-point in schizophrenic patients (Gómez-Benito et al., 2013); IPT + EMT: Integrated Psychological Therapy + Emotional Management Training; TAU: treatment as usual; BPRS: Brief Psychiatric Rating Scale: negative sign indicated symptoms reduction; SCIP: Screen for Cognitive Impairment in Psychiatry: positive effect size represents an improvement; VLT-I: Verbal Learning Test Immediate; WMT: Working Memory Test; VFT: Verbal Fluency Test; VLT-D: Verbal Learning Test Delayed; PST: Processing Speed Test; WAIS-III: Wechsler Adult Intelligence Scale-(3rd ed.): positive effect size indicated improvement; WCST: Wisconsin Card Sorting Test: negative effect size indicated reducing of errors. *Statistically significant differences. ES[1]: Standardized change score index (Morris & DeShon, 2002).

Table IV. Within-group differences after treatment: Social Functioning Scale (SFS) and Quality of Life Profile (LQoLP).

		PRE				POST									
		IPT + EMT $N = 42$		TAU $N = 35$		IPT + EMT $N = 41$		TAU $N = 24$		IPT + EMT Pre-post			TAU Pre-post		
		M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*t*	*p*	*ES*[1]	*t*	*p*	*ES*[1]
SFS	Range														
Isolation-involvement	0–6	3.90	1.04	4.08	0.87	4.24	0.91	4.00	0.98	−2.05	.04*	0.32	0.33	.74	−0.06
Communication	0–3	1.66	0.76	1.91	0.91	1.88	0.75	1.96	0.70	−1.65	.10	0.25	−0.24	.81	0.06
Prosocial behavior	0–12	3.56	2.84	4.96	1.98	4.24	3.06	4.46	2.22	−2.00	.05*	0.31	1.38	.18	−0.28
Execution	0–9	6.76	2.30	6.42	2.24	7.05	2.31	7.29	1.63	−1.60	.11	0.24	−1.87	.07	0.38
Skills	0–6	5.44	1.09	5.67	0.64	5.39	1.28	5.29	1.40	0.31	.75	−0.04	1.20	.24	−0.25
Leisure Activities	0–3	0.93	0.99	0.80	0.99	1.02	1.01	1.83	0.96	−0.66	.51	0.09	−3.87	.00*	0.92
Work Activities	2–4	3.62	0.49	3.71	0.47	3.56	0.55	2.92	0.28	0.81	.42	−0.13	9.55	.00*	−1.95
Overall score	0–43	25.83	5.57	27.29	3.59	27.39	5.97	27.92	4.06	−2.71	.01*	0.42	−0.81	.43	0.16
LQoLP															
Well-being	1–7	4.59	1.25	4.96	1.09	4.85	1.13	4.83	0.96	−1.09	.28	0.16	0.43	.67	−0.09
Work	3–21	11.32	4.55	13.64	2.86	12.98	4.11	12.96	2.68	−2.44	.01*	0.16	0.11	.91	−0.02
Leisure	3–21	13.78	3.47	15.58	2.37	14.46	3.05	14.13	2.27	−1.68	.10	0.26	2.42	.02*	−0.49
Religion	2–14	7.90	3.01	9.25	2.80	8.27	3.31	9.04	2.93	−0.67	.50	0.11	0.32	.75	−0.06
Finances	2–14	8.88	3.01	10.21	3.05	9.46	2.80	9.17	3.06	−1.12	.27	−0.17	1.83	.08	−0.37
Living situation	7–49	32.27	7.16	35.29	5.75	34.51	6.09	36.83	4.05	−1.93	.06	0.30	−1.22	.23	−0.25
Safety	2–14	10.02	2.84	10.17	2.18	11.05	2.36	9.38	1.84	−2.14	.03*	0.34	1.50	.15	−0.31
Family relations	3–21	11.15	3.07	10.50	3.23	11.20	2.70	11.04	3.18	−0.08	.93	0.01	−1.07	.29	0.22
Social relations	3–14	9.61	2.68	10.00	2.00	10.00	2.73	9.88	1.90	−0.68	.50	0.11	0.32	.75	−0.06
Health	3–21	14.12	3.60	15.68	2.16	14.39	3.06	15.04	2.63	−0.46	.65	0.07	0.89	.38	−0.20
Overall score	1–7	5.07	1.49	5.42	0.88	5.27	1.02	5.00	0.83	−0.86	.39	0.14	2.19	.04*	−0.45

Note: IPT + EMT: Integrated Psychological Therapy + Emotional Management Training. TAU: treatment as usual; SFS: social functioning scale; LQoLP: Lancashire Quality of Life Profile.
*Statistically significant differences.
ES[1]: Standardized change score index (Morris & DeShon, 2002). A positive effect size indicated improvement in social functioning (SFS) and quality of life (LQoLP).

Spain. These psychological treatments applied in individuals with chronic schizophrenia have been shown to be feasible and effective for patients to play an active role in their recovery process and to take control of their symptoms, while acquiring motivation for change and maintaining their functionality (Dickerson & Lehman, 2011; Pilling et al., 2002).

The sociodemographic profile of the sample in this study is similar to those described by San et al. (2013) and Rocca et al. (2016) in their studies on chronic schizophrenia. Participants were mostly middle-aged men, who had completed only primary education, with illness duration of over 10 years and multiples relapses, and presenting serious deficiencies in cognitive performance, especially in areas such as working memory and verbal comprehension (Ruiz-Iriondo et al., 2019).

The differential results of treatments show that the experimental condition was associated with high treatment attendance (only one patient dropped out). The treatment tested was well accepted by patients with a severe chronic mental disorder, who had no previous experience in participating in group psychological therapies.

In contrast, 11 patients of the control group dropped out and 3 were hospitalized. This shows the importance of introducing psychological intervention programs as an adjuvant to TAU for individuals even at the chronic phase of the illness (Dunn et al., 2012; Tandon, Nasrallah, & Keshavan, 2010). This should be investigated in further studies.

The IPT + EMT therapy seems effective for the treatment of patients with chronic schizophrenia in a community mental health setting, improving clinical symptoms, cognitive performance, social outcome, and quality of life. Psychological therapy might be a protective factor, in that it provides patients with psychological care, helps them to better manage their daily concerns, and makes them feel more supported. In turn, this may help stabilize their symptoms and reduce relapses, as well as serving as a behavioral activator to address the negative symptoms that occur during the chronic phase of schizophrenia (Choi, Jaekal, & Lee, 2016). Our results are connected to the recovery process. Treated patients with IPT + EMT had fewer dropouts and fewer hospitalizations, better therapeutic adherence, improved cognitive and social functioning, reduced psychopathological symptoms and increased quality of life.

Regarding treatment efficacy, although the differences between groups were small, they were always in favor of the experimental group, showing improvements in clinical symptoms, cognitive and social functioning, employability, living situation, and feelings of safety concerning quality of life. Specifically, patients who received the psychological intervention improved their performance in tasks of sustained attention and vigilance, immediate memory, associative thinking, and verbal comprehension. Our findings are in line with those from other research based on IPT (Aloi et al., 2018; Barlati et al., 2018; Lemos et al., 2004; Mueller et al., 2013; Penadés et al., 2003; Rakitzi et al., 2016; Roder et al., 2006, 2011; Vallina et al., 2001a, 2001b).

According to several authors (Green, 2006; Green & Harvey, 2014; Kurtz & Richardson, 2012), there is an important correlation between cognitive functioning and social performance. The application of IPT + EMT had a positive impact on the cognitive performance of the participants and this, in turn, was reflected in an improvement of their social functioning and quality of life (Briand et al., 2006). Given that most of the studies conducted assess the effectiveness of IPT (Aloi et al., 2018; Barlati et al., 2018; Rakitzi et al., 2016; Roder et al., 2006; Roder et al., 2011) and EMT separately (Cho & Jang, 2019; Hodel et al., 2004; Won et al., 2012), the results obtained in this study may hold some promise, but should be replicated and required additional validation.

Several issues should be considered when interpreting the findings. First, the sample size limited the types of statistical analysis so within-group comparisons were done for exploratory reasons. Second, the lack of follow-up evaluations prevents to explore if differences remain over time. Third, the assessor was not blind to treatment condition. Finally, it might be useful to assess changes in emotion management, especially on emotion processing, but there are no validated tools available in the Spanish language to assess social cognition in chronic schizophrenia.

This study has shown that psychological treatment applied in a community mental health service and related to a severe disorder such as schizophrenia seems to be useful for improving illness symptoms, even in chronic patients (Dunn et al., 2012; NICE, 2014; Tandon et al., 2010). Specifically, psychological therapies with cognitive remediation are useful for improving psychotic symptoms, perceived quality of life, and global functioning (Aloi et al., 2018; Buonocore, Bosinelli, et al., 2018; Buonocore, Spangaro, et al., 2018). To achieve this, the establishment of multidisciplinary teams and good collaboration with psychiatrists has been essential.

The most relevant advantages of combining IPT and EMT for patients with chronic schizophrenia in the daily clinical routine are the good results, the treatment acceptance (there was only one dropout in our study), the group therapy format, the manualization of treatment and the possibility of carrying out the program in a community mental health setting.

The most relevant disadvantage is that this treatment involves many sessions and lasts 8 months.

Our results indicate that patients treated with IPT + EMT have fewer dropouts and hospitalizations, improve therapeutic adherence and cognitive performance, reduce symptoms, and increase social functioning and quality of life. This study supports evidence of the efficacy of IPT + EMT in psychiatric care in Spain, and it hopefully will be initiating the inclusion of evidence-based psychological treatments in the community mental health settings for patients with chronic schizophrenia.

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