Application of the IPT in a Spanish Sample: Evaluation of the "Social Perception Subprogramme"

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ABSTRACT

This study analyses the impact of the second IPT subprogramme (Roder, Brenner, Hodel & Kienzle, 1996) in chronic schizophrenic patients. The programme intends to improve their ability to perceive and to interpret social situations. The sample was formed by 20 participants, divided into two groups: 11 in the therapy group and 9 in the control group. Social and clinical measures have been used, as well as an instrument developed for the assessment of Social Perception, as it is defined in the IPT. This instrument has been sensitive to changes in the pre-treatment and post-treatment measures, showing that schizophrenics patients have improved their ability to perceive and to interpret reality in a more adequate way.
Key Words: Social Perception, Schizophrenia, Assessment, Psychosocial Intervention, Cognitive Behaviour Therapy.

RESUMEN

Aplicación de la IPT en una muestra española: evaluación del "subprograma de percepción social". Este estudio investiga los efectos del segundo subprograma de la IPT en pacientes esquizofrénicos crónicos (Roder, Brenner, Hodel y Kienzle, 1996). El programa pretende mejorar sus habilidades para percibir e interpretar situaciones sociales. La muestra está formada por 20 participantes, divididos en dos grupos: 11 constituyen el grupo experimental y 9 el grupo control. Se han utilizado medidas clínicas y sociales, así como un instrumento desarrollado para la evaluación de la percepción social, tal y como es trabajada en la IPT. Este instrumento se ha mostrado sensible a los cambios pre y post-tratamiento, poniendo de manifiesto que los pacientes esquizofrénicos han mejorado sus habilidades para percibir e interpretar la realidad de un modo más adecuado.
Palabras Clave: Percepción Social, Esquizofrenia, Evaluación, Intervención Psicosocial, Terapia Cognitivo Conductual.

People do not react to reality just as it is, but as they build or interpret it (Ibáñez, 1979). Only an adequate interpretation of the environment, physical and social, permits our adaptation to it. For that reason, reality interpretation and the processes involved in it should be important aspects to consider in the rehabilitation of mental patients. Bedell & Lenox (1994) have studied the relation in the way we perceive reality and how we behave in society. These authors think that the ability to perceive is an important factor for a good social functioning. They consider that social abilities would include two groups of skills: cognitive and behavioural. Social perception and information processing are included in the cognitive skills group. Both of them define, organize and guide social skills. On the other hand, behavioural skills refer to verbal and nonverbal behaviour used in applying the action of a decision once cognitive processes have finished.

In the late eighties, as a result of the investigations that related cognitive deficit and social skills, it was concluded that schizophrenic patients had a deficit in social perception. This was particularly true in the recognition of affects, which makes them answer inadequately to other people (Halford & Hayes, 1991). Other deficit identified besides facial affect recognition (Morrison, Bellack & Mueser, 1988; Bellack, Blanchard & Mueser, 1996), and nonverbal perception (Toomey, Wallace, Corrigan, Schulderg & Green, 1997), has been inapropiate situational stimulus perception (Corrigan & Green, 1993).

In relation with facial affect recognition, Bellack (1992) thinks that schizophrenics shown a marked deterioration, especially in the ability to identify negative affects shown by others. Leff & Abberton (1981) related these deficits in schizophrenic patients with emotional flattening. It is known that different aspects of social perception such as facial affect recognition, perception of dynamic social stimuli and self-perception are related to social functioning in schizophrenia (Frith, 1995; Penn, Combs & Mohamed, 2001). Although literature shows the referred results, mediator processes among neurochemical dysfunction and behavioural symptoms have not been studied in intervention programmes. Roder, Brenner, Hodel & Kienzle (1996) indicate that among the mediator processes, attention and perception processes are especially affected, as well as those of recognition, integration and transformation of internal and external stimuli.

In fact, it is considered that the interventions focused in the social perception skills should serve to improve generalization of treatment and its maintenance (Penn *et al.*, 2001).

Roder *et al.* (1996) have developed an integrated therapy for schizophrenic patients (IPT) (*Integriertes psychologisches Therapieprogramm fur schizophrene Patienten*) with the purpose of working as much on cognitive functioning as on social functioning in schizophrenic patients. It is a group intervention programme with five subprogrammes: Cognitive Differentiation, Social Perception, Verbal Communication, Social Skills Training and Interpersonal Problem Solving. They are hierarchically ordered so the first interventions are directed to basic cognitive skills, the next interventions transform the cognitive skills into social and verbal behaviours, and the last ones train the patients in the solution of more complex interpersonal problems. Nowadays IPT is considered a good

procedure, with sufficient empirical support for schizophrenia treatment (Pérez & Fernández, 2001; Vallina & Lemos, 2001)

In this investigation we have trained social perception skills in a schizophrenic group of patients through the application of the second IPT programme. Some authors (Vallina *et al.*, 2001) consider it to be a basic programme because it contains the essence of all the cognitive interventions which included IPT (reception of information, its analysis and the emission of responses made after previous information has been received and analyzed). These three cognitive processes are the basis for the implementation of techniques and procedures used in the intervention package.

Research in which IPT is evaluated doesn't specifically assess social perception. Usually the considered measures in literature are: memory, verbal fluency, executive functions, synonyms and antonyms, word recognition, concentration and short and long term memory (Kraemer, 1991; Penadés, 2002; Roder, Studer & Brenner, 1987). Other assessment instruments used in these studies are: Benton Test (Brenner, Hodel, Kube & Roder, 1987a), and Frankfurt Test (FCQ) (Brenner, Hodel, Roder & Corrigan, 1992; Vallina *et al.*, 2001).

Because of this lack of attention to the evaluation of social perception, a Social Perception Scale (EPS) has been developed considering the three phases of the Social Perception Programme. This instrument is intended to evaluate changes produced by the training in social perception, and also to know at which moment the patient is prepared to go to the next programme. The effectiveness of the programme has also been studied when applied to patients with more deterioration than those that usually participate in this type of research. For example, in the study of Brenner *et al.* (1987a), the average IQ of the 43 participants was 98, and the duration of the illness was of nearly 6 years. Although in other studies, the average duration of the illness range between 7 and 10 years (Brenner, Boker, Muller, Spichtig & Wurgler, 1987b; Hodel & Brenner, 1994; Vallina *et al.*, 2001).

METHOD

Participants

Patients from this report are users of the Centre of Mental Health of Aldaia (Valencia), and attend the Association for Support to the Mental Health (AASAM) association. The following selection criteria were applied: diagnosis of schizophrenia according to CIE-10, without any organic damage nor abuse of alcohol or drugs, and to be in an age range between 18 and 50 years. All the patients were receiving pharmacological treatment either typical (haloperidol, fluphenazine) or atypical antipsychotics (clozapine, risperidone). A brief interview with the 25 patients with those requirements was made to evaluate their IQ using two tests: the vocabulary test of the WAIS-III (verbal), and the Toni-2 test (nonverbal). Criteria for the inclusion in the program were: a score of 4 in the vocabulary test or an IQ of 65 in the TONI-2 test. After the application of this criteria the number of participants was reduced to 23. 13 of them were assigned to the therapy group and 10 to the control group. The sample was matched by demographic and clinical data as shown in Table 1.

Table 1. Demographic and social characteristics of subjects

Characteristics	Treatment group	Control group
Number of subjects	11	9
Age (mean/sd)	40.45 (7.10)	36.88 (8.10)
IQ (mean/sd)	75.90 (14.07)	73.55 (10.63)
Sex: Male	9	5
Female	2	4
Education: Illiteracy	1	0
Primary school not completed	4	5
Primary school	4	2
Secondary school	2	2
Occupational situation: Pensioner	11	9
Housing situation: Alone	1	0
Sheltered home	2	1
With parents	6	7
With brothers/sisters	2	1
Marital status: Single	11	8
Divorced	0	1
Diagnostics: Hebefrenic	3	1
Undifferentiated	1	1
Paranoid	5	6
Residual	2	1
Duration illness (mean years)	21	14.77

Instruments

Following Wykes (2000) point of view we have considered three levels of analysis: the neuropsychological, the clinical and the functional. According to this author, the three levels are necessary to evaluate the effectiveness of any rehabilitation program. In order to evaluate the changes the following scales were administered at the beginning of the treatment and three months later, just when the Social Perception Programme finished.

Social Perception Measures

Social Perception Scale (EPS) (García, 2003). The instrument is structured according the three phases of the Social Perception Programme of the IPT: First, stimuli identification; second, interpretation; and third, title assignment.

Four photographs and register sheets were used to assess patients in the three aspects in which the programme focuses. Photographs were taken from the 40 slides that integrate the program (numbers: 02, 05, 06 and 07). Two of them were chosen because they had a high cognitive complexity, and the other two because they had a high emotional content. After giving a photograph to the subject and inviting him to observe it, the following questions were asked: What details/stimuli can you see in the photograph? (First part); What is happening in the photograph? (Second part); What title can summarise the more relevant aspects in the photograph? (Third part). Answers

corresponding to each part were noted on to the register sheet. In the first part of the register sheet there is a list containing the stimuli present in the image with which to score patients later. In this part the patient has one and a half minutes to say which stimuli were in the photographs. With answers of the patient in this first part three scores were obtained: proportion of identified stimuli, number of errors, and number of interpretations made. In the second part, subject answers were valued using a Likert scale: 0 (no answer), 1 (no appropriate interpretation), 2 (partially appropriate interpretation) and 3 (appropriate interpretation). In the third part patient answers were again valued using a Likert scale: 0 (no answer), 1 (no appropriate title), 2 (partially appropriate title) and 3 (appropriate title). These two scores were then transformed into proportions, taking into account the maximum score in each part was 12.

In the assessment of the second and third part, it was relevant that the answers of the subjects made reference to the situational context, actor/s, and the action or interaction among them. So when answers didn't allude to any of these aspects or only to one of them, but add imagined aspects, the score of the answer was 1. If it made reference to two of the indicated aspects, the score was 2. And finally, if it made reference to three, the score was 3.

Attention

Test of Sustained and Selective Attention (TASS) (Batle and Tomás, 1999). It has different geometric figures, and the task consists of ticking some of them with a cross. Specifically the patient has to mark "the yellow circles and all the squares of any colour". The time for the task, in the form that we have used (A) is 8 minutes. This test evaluates sustained and selective attention.

Psychopathology

Brief Psychiatric Rating Scale (BPRS) (Lukoff, Nuechterlein and Ventura, 1986). The scale contains 24 items. Each one scores according to a Likert type scale (1 is equivalent to no symptoms and 7 to extreme gravity). It also gives scores in 5 subscales and a global score (see table 2). This instrument, as well as the next two, were not administered by the investigators, but by an expert of the mental health personnel of Aldaia.

Frankfurt Complaint Inventory (FBF-3) (Süllwold and Huber, 1986). We have used the version of this self-report made by Jimeno, Jimeno & Vargas (1996), which contains 98 items distributed in 10 scales (see table 2).

Social Functioning

Disability Assessment Schedule (DAS II) (WHO, 1985). The adaptation made by Montero, Bonet, Puche & Gomez Beneyto (1988) was used. This test is conducted through an interview between the expert and the patient or someone known the patient. It is evaluated in a 9 points scale of gravity, that range from "non-dysfunctial" (0) to

"completely dysfunctional most of the time" (8). The first part of the interview (General Behaviour), the second part (Social Roll Execution) and the fifth part (Global Assessment) were used. Four items of the second part were excluded, due to the characteristics of the sample, as they were impossible to evaluate (see table 2).

Procedure

Two groups, one of control and one experimental, were used in a completely randomized design. Both groups were evaluated in the different dependent variables before and after the application of the treatment. The therapy group was divided into two groups for the psychological intervention programme, so the number of participants in each group was, at the beginning, 7 and 6 but, due to the absence of two of the subjects, the final groups were formed by 6 and 5 respectively. The clinical intervention in the therapy group was based on the application of the Social Perception Programme. The duration of the treatment was 3 months. The frequency of the sessions was twice a week for each therapy group, with a duration of 30 minutes in the first five sessions (because only one slide was used) and 60 minutes for the rest (working with two slides per session). The total number of sessions was 21.

In the first sessions, slides with low cognitive complexity and low emotional content were used. Later on, slides with more cognitive complexity were added, and from time to time, slides with more emotional content were included. The total number of slides used was 36 (because 4 were employed in the EPS). Positioning of the chairs in a semicircle was habitual in the application of the programme, with a big table in the centre to write the titles. The distribution of the seats guaranteed the visual contact between the participants themselves and with the therapists. Two professionals applied the programme, a therapist and a Co-therapist, both of them assuming the recommended functions of the IPT authors (Roder *et al.*, 1996).

The application of the Social Perception Programme intends to improve the perception and interpretation of social situations. This programme has three phases: first, the participants must say all possible details presented in the image. This phase is essential for the rest of the programme because the collected information will be used by the participants to explain and justify their own interpretations; second, participants give their opinion about the content of the image, and it must be justified with the visual information gathered before. Later on, a debate begins looking for the most appropriate interpretation of the social situation that appears in the slide. Finally, in the third phase, each patient gives a title to the image making reference to the more relevant aspects of it.

RESULTS

Non-parametrical statistical procedures were used throughout the analyses. Group differences before and after the treatment between the experimental and control groups were calculated using the Mann-Whitney U-test. Pre-test/post-test intervention differences in both groups were analyzed using the Wilcoxon test. Effect sizes were also calculated

in order to describe the relevance of changes after the treatment in the therapy group.

Group differences before treatment: Baseline differences between groups were examined by the Mann-Whitney U-test. This analysis showed significant differences in just three measures: EPS (quality of the title, $z= 2.41$, $p= 0.016$); Frankfurt (lost of control, $z= 2.00$, $p= 0.045$); and DAS II (social contacts, $z= 2.01$, $p= 0.044$), indicating that the two groups, were to a great extent, homogeneous before the intervention.

Group differences after treatment: Due to the absence of some data, the statistical analysis of the FBF scores were calculated with 7 subjects corresponding to the control group and 5 to the the experimental group. The analysis revealed that although there were no clinical differences between the two groups, they differ in four of the five scores of the social perception scale: proportion of identified stimuli ($z= 2.43$, $p= 0.015$); number of interpretations ($z= 2.81$, $p= 0.005$); proportion of adequate interpretations ($z= 2.02$, $p= 0.043$); and quality of the title ($z= 2.97$, $p= 0.003$). There were no differences

Table 2. Pre-test/post-test treatment measures for the control group and Wicolxon "z" values (NS= not significant).

VARIABLES	*PRE-TEST*	*POST-TEST*	Z	P
	MEAN (SD)	MEAN (SD)		
EPS				
Proportion of identified stimuli	35.32 (10.50)	36.65 (9.96)	-0.42	NS
Number of interpretations	5.22 (2.11)	5.33 (1.66)	-0.28	NS
Number of errors	2.44 (1.42)	2.11 (1.45)	-0.72	NS
Proportion of adequate interpretations	63.89 (12.50)	61.11 (8.33)	-0.68	NS
Proportion of quality title	55.56 (10.21)	49.07 (15.28)	-1.15	NS
TASS				
Direct Score	102.22 (45.45)	107.09 (36.25)	-1.01	NS
Hits	109.78 (31.79)	114.78 (33.33)	-1.76	NS
Omission	13.89 (14.40)	10.00 (12.94)	-2.20	.028
Errors	1.67 (3.91)	.67 (1.12)	-0.14	NS
BPRS				
Anxiety / Depression	7.44 (3.40)	8.33 (3.54)	-0.86	NS
Thought disorders	12.33 (7.38)	8.78 (4.60)	-1.52	NS
Anergia	8.89 (4.51)	5.00 (1.00)	-2.20	.028
Activation	7.00 (5.63)	4.11 (2.62)	-1.78	NS
Hostility	8.56 (6.21)	5.00 (3.04)	-1.61	NS
Total Score	44.22 (21.92)	31.22 (7.22)	-2.10	.035
FBF-3				
Loss of control	4.14 (1.77)	4.00 (2.00)	-0.37	NS
Simple perception	2.00 (2.00)	3.29 (2.69)	-0.77	NS
Complex perception	3.57 (3.21)	4.29 (2.50)	-0.81	NS
Speech	5.71 (2.14)	6.71 (2.69)	-0.86	NS
Cognition and Thought	4.57 (3.21)	5.00 (3.16)	-0.43	NS
Memory	5.00 (3.27)	5.43 (2.51)	-0.54	NS
Motor behavior	2.86 (.69)	4.43 (2.07)	-1.63	NS
Loss of automatic behavior	5.00 (2.24)	5.86 (1.86)	-0.85	NS
Depression	3.29 (2.50)	4.43 (2.23)	-0.85	NS
Stimuli overload	4.14 (1.57)	4.43 (1.81)	-0.70	NS
Factor 1. Cognition Disorder.	9.14 (4.63)	11.00 (3.91)	-1.02	NS
Factor 2. Perception-Motor skills	7.57 (4.58)	10.71 (5.35)	-1.27	NS
Factor 3. Depression	13.57 (6.21)	15.57 (5.74)	-1.02	NS
Factor 4. Stimuli Overload.	9.00 (4.08)	9.00 (4.08)	-0.35	NS
Total Score	40.00 (17.33)	48.29 (18.13)	-0.95	NS
DAS II				
Self-Care	2.22 (3.03)	2.56 (2.74)	-0.55	NS
Leisure time	4.56 (3.13)	2.33 (1.66)	-1.87	NS
Slowness	2.56 (2.55)	1.56 (1.42)	-1.06	NS
Communication	3.56 (2.92)	3.56 (3.05)	-0.09	NS
Participation in household	3.22 (3.15)	1.67 (1.41)	-1.36	NS
Social Contacts	2.44 (2.46)	2.11 (2.71)	-0.53	NS
Performance at work	3.63 (2.13)	3.89 (2.80)	-0.68	NS
Interest in getting a job	4.11 (2.33)	4.89 (2.52)	-0.17	NS
General Interest	4.44 (3.54)	4.78 (2.91)	-0.34	NS
Emergency or crisis behavior	4.11 (3.02)	4.22 (3.11)	-0.07	NS
Social Adjustment Total Score	3.11 (1.05)	3.00 (.87)	-0.38	NS

Table 3. Pre-test/post-test treatment measures for the therapy group and Wilcoxon´s "z" values (NS= not significant).

VARIABLES	PRE-TEST	POST-TEST	Z	P
	MEAN (SD)	MEAN (SD)		
EPS				
Proportion of identified stimuli	34.87 (10.43)	48.98 (9.90)	-2.86	**.004**
Number of interpretations	6.00 (2.57)	2.45 (1.97)	-2.50	**.012**
Number of errors	1.82 (1.25)	1.36 (.81)	-0.97	NS
Proportion adequate interpretations	56.82 (9.73)	78.79 (18.40)	-2.81	**.005**
Proportion quality title	43.18 (11.07)	80.30 (19.82)	-2.81	**.005**
TASS				
Direct Score	104.37 (50.90)	106.16 (40.00)	-0.62	NS
Hits	115.36 (51.50)	110.73 (33.66)	-0.66	NS
Omission	5.45 (6.58)	7.09 (10.63)	-0.46	NS
Errors	3.60 (9.93)	.45 (1.21)	-1.07	NS
BPRS				
Anxiety / Depression	7.27 (3.64)	7.18 (2.75)	-0.18	NS
Thought disorders	9.82 (5.36)	6.73 (3.13)	-1.47	NS
Anergia	7.45 (2.62)	5.00 (2.41)	-1.84	NS
Activation	5.09 (2.66)	4.36 (2.01)	-0.85	NS
Hostility	4.64 (2.50)	4.18 (2.99)	-0.53	NS
Total Score	34.36 (13.06)	27.36 (8.29)	-1.56	NS
FBF-3				
Loss of control	1.80 (1.30)	4.40 (2.30)	-1.46	NS
Simple perception	4.00 (3.08)	4.00 (2.74)	-0.00	NS
Complex perception	3.40 (2.07)	5.40 (2.41)	-0.81	NS
Speech	5.60 (2.88)	6.60 (2.30)	-0.68	NS
Cognition and Thought	4.60 (2.70)	6.80 (1.30)	-1.84	NS
Memory	5.00 (2.92)	5.60 (2.19)	-0.54	NS
Motor behavior	4.60 (2.70)	5.20 (3.70)	-0.37	NS
Loss of automatic behavior	4.00 (2.74)	6.20 (3.03)	-0.41	NS
Depression	4.00 (2.12)	5.00 (1.41)	-0.96	NS
Stimuli overload	3.80 (1.79)	6.00 (1.41)	-1.51	NS
Factor 1. Cognition Disorder.	8.80 (3.27)	13.60 (4.39)	-1.49	NS
Factor 2. Perception-Motor skills	11.00 (7.48)	15.00 (8.15)	-0.73	NS
Factor 3. Depression	11.00 (5.05)	16.00 (2.65)	-1.22	NS
Factor 4. Stimuli Overload.	8.80 (3.42)	11.40 (2.88)	-0.96	NS
Total Score	40.80 (17.04)	56.00 (15.65)	-0.94	NS
DAS II				
Self -Care	1.82 (2.79)	1.64 (1.57)	-0.21	NS
Leisure time	4.18 (2.60)	1.91 (1.22)	-2.30	**.021**
Slowness	2.27 (2.53)	1.64 (2.06)	-0.67	NS
Communication	4.27 (3.00)	2.09 (2.74)	-1.69	NS
Participation in household	2.50 (2.88)	2.09 (1.92)	-0.85	NS
Social Contacts	0.60 (1.35)	.64 (1.21)	-0.00	NS
Performance at work	2.20 (2.30)	2.27 (2.28)	-0.26	NS
Interest in getting a job	3.78 (2.59)	3.36 (3.11)	-0.17	NS
General Interest	4.73 (2.90)	4.64 (2.87)	-0.12	NS
Emergency or crisis behavior	5.27 (3.10)	4.45 (2.46)	-1.18	NS
Social Adjustment Total Score	3.00 (.89)	2.64 (1.12)	-1.27	NS

in the EPS score 'number of errors' probably due to a floor effect. These results point out an improvement in the perception and interpretation of social situations in the therapy group.

Pre-test/post-test intervention changes: Pre-tests/post-test changes were analyzed in both groups in every measure. As shown in Tables 2 and 3 there were no significant differences in most of the cognitive, social functioning and psychopathology measures in both groups. However some specific changes were observed. In the control group there were significant changes in one TASS score (omissions) and in two BPRS scores (anergia and total score). In the therapy group there were significant changes in one

DAS II score (leisure time). But the results were quite different in social perception measures. There wasn't any pre-test/post-test change in the control group, but there were significant and positive differences in four EPS scores (proportion of identified stimuli; number of interpretations; proportion of adequate interpretations; and quality of the title). Comparing the changes which occurred in the group it can be observed that experimental patients: increase the proportion of identified stimuli, decrease the number of interpretations, increase the proportion of adequate interpretations, and also increase the quality of the title. There were probably no differences in the number of errors due to a floor effect. Taken together, the obtained results reveal that the IPT program was effective in producing a significant positive effect on the perception and correct interpretation of social situations in these patients, measured through the EPS.

Effect sizes defined by the difference of the baseline with the measurement point after treatment divided by the standard deviation of the whole sample at baseline (Roder et al., 2002) were also calculated for all measurements in the therapy group (see Table 4). The overall strongest effects were obtained on EPS measurements, all the effects indicated improvement and, except in the 'number of errors', they reached the level of large effect size. In the rest of the measurements the group has also shown some important improvements as in: BPRS scores (anergia and total score) and DAS II scores (free time and communication).

Additionally, the correlation (Pearson coefficient) between the scores of the two

Table 4. Effect size measurements for the therapy group

EPS	ES
Proportion of identified stimuli	1.39
Number of interpretations	-1.51
Number of errors	-0.34
Proportion of adequate interpretations	1.94
Proportion of quality title	3.05
TASS	
Direct Score	0.04
Hits	-0.11
Omission	0.14
Errors	-0.46
BPRS	
Anxiety / Depression	-0.03
Thought disorders	-0.49
Anergia	-0.69
Activation	-0.17
Hostility	-0.09
Total Score	-0.39
DAS II	
Self-Care	-0.06
Leisure time	-0.82
Slowness	-0.26
Communication	-0.75
Participation in household	-0.14
Social Contacts	0.02
Performance at work	0.03
Interest in getting a job	-0.17
General Interest	-0.03
Emergency or crisis behavior	-0.27
Social Adjustment Total Score	-0.38

therapists who marked the EPS was calculated to evaluate the fiability of the scores. Correlation was high in every EPS score with ranges between 0.96 and 1.00 in both, pre-test and post-test measurements.

DISCUSSION

Results show that the Social Perception of the patients who participated in the programme has improved, and this fact reveals that this programme contributes to the acquisition of social perception cognitive skills. Subjects that have received training in Social Perception learn to collect more information (identifying more stimuli) of an image, to make better interpretations of it and to summarise, with a title, the most important information of it. In addition, we found that the EPS is very sensitive to the produced changes, and that inter-observer agreement is very high. Therefore, we have developed an instrument which can help the therapist to decide when a patient is prepared for the next IPT programme.

Results have not shown significant differences in attention between the therapy and control group. So, it can be assumed that the Social Perception Programme does not improve attention capacities as we have evaluated them. In fact, another IPT programme, the Cognitive Differentiation one, is the one orientated to improve attentional processes, especially selective, focused and sustained attention. The intervention has not reduced the symptoms in the schizophrenic patients. Although significant improvements in psychopathological parameters and social role-functioning were not expected because it was a short intervention and patients were of long illness duration, analysis of effect sizes have shown positive changes in some scores: anergia, thought disorders, and total score (BPRS); leisure time and communication (DAS-II).

These results are in line with the Capability of Penetration Model (Brenner, 1989). This model is based on three assumptions: (1) schizophrenics show deficits in different functional levels of behaviour organization, (2) deficits in one level can affect functions in other levels, and (3) different levels follow a hierarchic relation among them. The model also affirms that an improvement in cognitive functioning has a deep effect on all behaviour organization levels.

Our results are similar to the ones obtained by Kraemer *et al.* (1991) who, after applying the Cognitive Differentiation, Social Perception and Interpersonal Problem Solving programs, found differences in cognitive functioning but non-significant improvements in psychopathology. So it can be confirmed that those investigations that find differences in psychopathology and social functioning are those that use the complete IPT like Brenner's *et al.* (1987a), or at least four of its five programs like Vallina´s *et al.* (2001).

Finally, emphasis must be made that, although IPT authors recommend to work with patients with a minimum IQ of 85, in our investigation patients with less IQ also benefited from the intervention. In summary, it can be stated that if only the Social Perception Programme of the IPT is applied, chronic schizophrenics improve their capacity to perceive and to interpret social reality.

REFERENCES

Batlle, S. & Tomás, J. (1999). Evaluación de la Atención en la Infancia y la Adolescencia: Diseño de un Test de Atención Selectiva y Sostenida. Estudio piloto. *Revista Española de Psiquiatría Infanto-Juvenil, 3,* 142-148.

Bedell, J.R. & Lennox, S.S. (1994). The standardised assessment of cognitive and behavioral components of social skills. In J.R. Bedell (ed.). *Psychological assessment and treatment of persons with severe mental disorders*. London: Taylor & Francis.

Bellack, A.S. (1992). Cognitive rehabilitation for schizophrenia: Is it possible? Is it necessary?. *Schizophrenia Bulletin, 18*, 43-50.

Bellack, A.S., Blanchard, J.J. & Mueser, K. (1996). Cue availability and affect perception in schizophrenia. *Schizophrenia Bulletin*, 22, 535-544.

Brenner, H.D., Hodel, B., Kube, G. & Roder, V. (1987a). Kognitive Therapie bei Schizophrenen: Problemanalyse und empirische Ergebnisse. *Nervenarzt, 58*, 72-83.

Brenner, H.D., Boker, W., Muller, J., Spichtig, L. & Wurgler, S. (1987b). On autoprotective efforts of schizophrenics, neurotics and controls. *Acta Psychiatrica Scandinavica, 75*, 405-414.

Brenner, H.D. (1989). The treatment of basic psychological dysfunctions from a systemic point of view. *British Journal of Psychiatry, 155*, 74-83.

Brenner, H.D., Hodel, B., Roder, V. & Corrigan, P.W. (1992). Treatment of cognitive Dysfunctions and Behavioral Deficits in schizophrenia. *Schizophrenia Bulletin, 18*, 21-26.

Corrigan, P.W. & Green, M.F. (1993). Schizophrenics Patients Sensitivity to Social Cues: The Role of Abstraction. *American Journal of Psychiatry, 150*, 589-594.

Frith, C.D. (1995). *La esquizofrenia. Un enfoque neuropsicológico cognitivo*. Barcelona: Ariel.

García, S. (2003). *Rehabilitación de enfermos mentales crónicos: Entrenamiento en Percepción Social*. Trabajo de Investigación. Departamento de Personalidad, Evaluación y Tratamientos Psicológicos. Universidad de Valencia.

Halford, W.K. & Hayes, R. (1991). Psychological rehabilitation of chronic schizophrenic patients: recent finding on social skills training and family psychoeducation. *Clinical Psychology Review, 11*, 23-44.

Hodel, B. & Brenner, H.D. (1994). Cognitive therapy with schizophrenic patients: conceptual basis, present state, future directions. *Acta Psychiatrica Scandinavica, 90*, suppl 384, 108-115.

Ibáñez, T. (1979). Factores sociales de la percepción. Hacia una psicosociología del significado. *Cuadernos de Psicología, 1*, 71-81.

Jimeno, N., Jimeno, A. & Vargas, M.L. (1996). *El Síndrome psicótico y el Inventario de Frankfurt. Conceptos y resultados*. Barcelona: Springer.

Kraemer, S. (1991). Cognitive training and social skills training in relation to basic disturbances in chronic schizophrenic patients. In C.N. Stefanis (ed.). *Proceedings of the World Congress of*

Psychiatry. Amsterdam: Elsevier.

Leff, J. & Abberton, B. (1981). Voice pitch measurements in schizophrenia and depression. *Psychological Medicine, 11*, 849-852.

Lukoff, D., Nuechterlein, K.H. & Ventura, J. (1986). Manual for Expanded Brief Psychiatric Rating Scale (BPRS). *Schizophrenia Bulletin, 12*, 594-602.

Montero, I., Bonet, A., Puche, E. & Gómez Beneyto, M. (1988). Adaptación española del DAS-II (Disability Assesment Shedule). *Psiquis, 175*, 17-22.

Morrison, R.L., Bellack, A.S. & Mueser, K.T. (1988). Deficits in facial-affect recognition and schizophrenia. *Schizophrenia Bulletin, 14*, 67-83.

Organización Mundial de la Salud (1992). *CIE-10. Trastornos Mentales del Comportamiento*. Madrid: Meditor.

Penadés, R. (2002). *La Rehabilitación neuropsicológica del paciente esquizofrénico*. Tesis Doctoral. Departamento de Psiquiatría y Psicobiología Clínica. Universidad de Barcelona.

Penn, D.L., Comb D. & Mohamed, S. (2001). Social Perception in Schizophrenia. In P.W. Corrigan & D.L. Penn (Eds.), *Social Cognition and Schizophrenia*. Washington: American Psychological Association.

Pérez, M. & Fernández, J.R. (2001). El grano y la criba de los tratamientos psicológicos. *Psicothema, 13*, 523-529.

Roder, V., Studer, K. & Brenner, H.D. (1987). Erfahrunger mit einem intergrierten psychologischen therapieprogramm zum training kommunikativer und kognitiver fahigkeiten in der rehabilitation schwer chronisch schizophrener patienten. *Schweizer Archiv Fur Neurologie und Psychiatrie, 138*, 31-44.

Roder, V., Brenner, H.D, Muller, D, Lachler, M., Muller, R. & Zorn, P. (2002). Social skills training for schizophrenia: Research update and empirical results. In H. Kashima., I.R.H. Falloon., M. Mizuno, & M. Asai (Eds.), *Comprehensive Treatment of Schizophrenia*. Tokyo: Springer.

Roder, V., Brenner, H.D., Hodel, B. & Kienzle, N. (1996). *Terapia Integrada de la Esquizofrenia*. Barcelona: Ariel.

Süllwold, L. & Huber, G. (1986). *Schizophrene basisstörungen*. Berlin: Springer.

Toomey, R., Wallace, C.J., Corrigan, P.W., Schulderg, D. & Green, M.F. (1997). Social processing correlates of nonverbal perception in schizophrenia. *Psychiatry, 60*, 292-300.

Vallina, O., Lemos, S., Roder, V., García, A., Otero, A., Alonso, M. & Gutiérrez, A.M. (2001). Controlled study of an integrated psychological intervention in schizophrenia. *The European Journal of Psychiatry, 15*, 167-179.

Vallina, O. & Lemos, S (2001). Tratamientos psicológicos eficaces para la esquizofrenia. *Psicothema, 13*, 345-364.

World Health Organization (1985). *A procedure and schedule for assessment of disability in patients with severe psychiatric disorders. Disability Assessment Schedule-DAS-II*. Geneva: WHO.

Wykes, T. (2000). Cognitive rehabilitation and remediation in schizophrenia. In T. Sharma & P. Arvey (eds). *Cognition in Schizophrenia*. New York: Oxford University Press.