Salud Mental 2015;38(5):371-377
ISSN: 0185-3325
DOI: 10.17711/SM.0185-3325.2015.050

Cognitive behavioral therapy and negative symptoms in schizophrenia

Tania Morales Vigil,[1] Ana Fresán Orellana,[2] Rebeca Robles García,[2] Mariana Domínguez Correa[3]

Thematic update

ABSTRACT

Introduction

Schizophrenia is a health and social problem of great dimensions, affecting not only the patient but their family and social environment. Among the psychotherapeutic approaches for patients with schizophrenia, cognitive behavioral therapy (CBT) has most evidence of effectiveness for different purposes and stages of the disorder.

Objective

Analyze the specific techniques and outcome of major CBT on negative symptoms for patients with schizophrenia: psychoeducation, social skills training, cognitive rehabilitation, CBT for positive symptoms, and recovery-oriented cognitive behavioral therapy (CBT-R).

Method

A search and analysis of scientific literature published in English and Spanish between 1990 and 2014 was performed in PSYCLIT, MEDLINE, EBSCO-HOST, and PROQUEST, employing as key words the names of the different CBTs for schizophrenia and the diagnosis. Relevant literature included in review articles was also included.

Results

Despite the advances of CBT, the problems generated by negative symptoms of patients with schizophrenia are not completely solved.

Discussion and conclusion

CBT-R is considered a promising therapeutic style for achieving the objectives of recovery in patients with low psychosocial functioning and predominance of negative symptomatology.

Key words: Cognitive Behavioral Therapy, schizophrenia, negative symptoms, recovery.

RESUMEN

Introducción

La esquizofrenia constituye un problema sanitario y social de grandes dimensiones que afecta no sólo al paciente sino a su entorno familiar y social. Dentro de las aproximaciones psicoterapéuticas dirigidas a pacientes con esquizofrenia, las terapias cognitivo conductuales (TCC) son las que cuentan con mayor evidencia de efectividad para diferentes propósitos y etapas del trastorno.

Objetivo

Analizar las técnicas y efectos específicos sobre síntomas negativos de las principales TCC para pacientes con esquizofrenia: Psicoeducación, Entrenamiento en Habilidades Sociales, Rehabilitación Cognitiva, TCC para Síntomas Positivos y TCC orientada a la Recuperación (TCC-R).

Método

Se llevó a cabo una búsqueda y análisis de literatura científica en PSYCLIT, MEDLINE, EBSCO-HOST y PROQUEST publicada entre 1990 y 2014 en revistas indexadas en inglés y español, utilizando como palabras clave los nombres de las diferentes TCC para la esquizofrenia que se cruzaron en todos los casos con el diagnóstico. Se recopiló también la literatura relevante citada en estos artículos, sobre todo en las revisiones de literatura antecedentes.

Resultados

A pesar de los avances que han presentado las TCC en la recuperación de pacientes con diagnóstico de esquizofrenia, los problemas generados por la sintomatología negativa no han sido resueltos por completo.

Discusión y conclusión

La TCC-R se considera un estilo terapéutico prometedor para alcanzar los objetivos de recuperación de los pacientes con bajo funcionamiento psicosocial y predominio de sintomatología negativa.

Palabras clave: Terapia cognitivo conductual, esquizofrenia, síntomas negativos, recuperación.

Translation of the original version published in spanish in: Salud Mental 2015, Vol. 38 Issue No. 5.

[1] School of Psychology, National Autonomous University of Mexico, Mexico.
[2] Ramón de la Fuente Muñiz National Institute of Psychiatry, Mexico.
[3] Clinical Psychology, Universidad del Valle de México, Mexico.

Correspondence: Dr. Rebeca Robles García. Department of Epidemiological and Psychosocial Research. Ramón de la Fuente Muñiz National Institute of Psychiatry. Calz. México-Xochimilco 101, San Lorenzo Huipulco, Tlalpan, 14370, Mexico, DF, E-mail: reberobles@imp.edu.mx

Received first version: June 25, 2014. Second version: March 24, 2015. Accepted: July 27, 2015.

INTRODUCTION

Schizophrenia is a condition which has low incidence but high associated incapacity. It is characterized by the presence of three large groups of symptoms: The first group is that of positive symptoms –the result of abnormal mental processes (hallucinations and delusions)–. The second is negative symptoms –reduction or absence of normal mental functioning (emotional plateauing, isolation, reduction in motivation or energy, and anhedonia)–. The third group is disorganized symptoms, relative to disorganization in thought, language, or behavior (circumstantiality, tangentiality, derailment, "word salad", psychomotive slowness, rhythmic and repetitive movement or gestures, and strange behaviors without a defined purpose).

Fortunately, expectations of treatment for the condition have improved over time. Important advances have been made in pharmacological treatments, which are increasingly effective and selective in managing and reducing positive psychotic symptomatology. A transition has also been made from a model of institutionalization to one based on community and oriented towards recovery. As such, the field of psychosocial rehabilitation has developed to the point of offering essential strategies to improve the patient's autonomy and their active participation within the community.

In this way, psychosocial treatments have developed from pessimistic beginnings that considered the disorganization of personality an inevitable consequence of the cognitive deterioration of psychosis and which therefore negated the possibility of psychological treatment, to developing multiple modes of intervention directed towards patient recuperation.

Nowadays, psychosocial strategies are considered a substantial part of treatment for schizophrenia; more so considering the limited effectiveness of drugs in improving negative symptoms.[1] Although these symptoms are not as prominent as positive ones, over the long term they are the best indicators of incapacity related to the illness, as they interfere with the patient's ability to function in daily life.[2]

Due to its effectiveness, one of the most widely used psychosocial interventions in treating schizophrenia is cognitive behavioral therapy (CBT).[3]

There were three stages of developing CBT for psychosis: the first was during the 1960s, when therapeutic strategies were based on the principles of conditioning aimed at the environmental control of the behavior. The second was during the 1970s and was based on introducing family treatments and training in social skills. The third started in the 1990s, and it consolidated the previous two methods of intervention, developing what was to be called CBT for schizophrenia.[4]

Cognitive-behavioral intervention techniques are showing more and more effectiveness in preventing relapse[5] and in managing problems[6] in patients with schizophrenia; they promote recovery and integration in the community as they aim for key components of functionality, such as symptomatic stability, promoting independent living, establishing work, and adequate social functioning.[5-7]

Different authors have agreed that CBT for schizophrenia can be divided into four categories:[3,5-8] psycho-educational family therapy;[9] social skills training and problem-solving;[10] cognitive rehabilitation therapies;[11] and cognitive-behavioral therapy for positive symptoms.[12,13] Recovery-oriented cognitive-behavioral therapy (CBT-R) has recently joined the list of CBT principles for schizophrenia, as it has shown unprecedented results, especially in terms of managing negative symptoms.[14]

Taking the above into account, the aim of the present work was to analyze the techniques and specific effects on negative symptoms of CBT principles for patients with schizophrenia (psychoeducation, social skills training, cognitive rehabilitation, CBT for positive symptoms, and CBT-R).

METHOD

A search was carried out (on PSYCLIT, MEDLINE, EBSCO-HOST, and PROQUEST) as well as a collection and analysis of scientific literature published between 1990 and 2014 in journals indexed in English and Spanish, using as key words the names of the different CBTs for schizophrenia (Psychoeducation, Social Skills Training, Cognitive Rehabilitation, CBT for Positive Symptoms, and CBT-R) which was also crossed in the search with the diagnosis (schizophrenia). The relevant bibliography cited in the collected texts was also added, especially in the previous journals. The type of variables of results in the interventions selected in the different studies as indicators of the effectiveness of interventions was analyzed. This allowed a determination of whether its specific effect was assessed on the negative symptoms and if this was done with the necessary methodological rigor.

RESULTS

A total of 37 empirical works were analyzed (eight of which were meta-analysis) to assess the effectiveness of interventions on schizophrenia, subject to study (psychoeducation, social skills training, cognitive rehabilitation, CBT for positive symptoms, and CBT-R); of these, only 18 assessed their impact on the patients' negative symptoms. The specialized literature analysis presents the aim of each of the CBTs for schizophrenia, firstly offering a brief definition of the technique and its general effectiveness, and concluding with an analysis of its impact on managing negative symptomatology.

Family psychoeducation

Psychoeducational therapy is based on research underlying the relationship in the family sphere,[15,16] emotions expressed by its members,[17] and family cohesion[18] over the course of the illness; these interventions are aimed at providing information about the illness to family members as a tool which encourages their relationship with the patient. Some of the most common activities are: clarifying the term "schizophrenia", describing the symptoms (positive, cognitive, and negative) and their origin (alterations in dopamine and processing information), explaining the model of vulnerability-stress, raising awareness of the characteristics of medications and their secondary effects, as well as possible relapse prevention based on an action plan in case of crisis.[19] Recently, training techniques in coping strategies and problem-solving have been included.[20]

Psychoeducation of family members is the most researched therapy in terms of schizophrenia;[21] since the 1980s, studies have been carried out on the relationship between high emotivity expressed by the family and the course of the illness, and lower rates of relapse are reported in patients whose families receive this treatment, even at a nine-month[22] and two-year follow-up.[23]

Psychoeducation interventions, combined with anti-psychotic medications, have been shown to be effective in increasing psychosocial function and reducing expressed emotivity,[3] clinical symptomatology, relapses, and hospitalizations.[22] They have also shown effectiveness in more indirect variables such as maintaining a job;[23] it has been reported that these results largely depend on psychoeducational programs being based on family needs and characteristics.[16]

However, the majority of studies dedicated to analyzing the effectiveness of family psychoeducation for patients with schizophrenia[21-26] are based on analyzing changes in expressed emotivity and rate of relapse; they rarely assess their effectiveness in controlling symptoms, especially negative ones. The few studies published which do reflect some effectiveness of psychoeducational interventions on negative symptoms do not include a control group, they assess small groups and their inclusion criteria are very general.[27] The scarcity of research in this respect could be due to the fact that the majority of families of patients with schizophrenia participated in the patient's treatment while they were hospitalized; in other words, when the positive symptoms are exacerbated and were the focus of treatment.

Social skills training

Social skills training (SST) for patients with schizophrenia was started due to antipsychotic medications not directly improving the necessary skills for community life. This intervention is pertinent for many reasons, among them: 1. affective 'plateauing' hinders social expression, 2. the majority of patients have a history of lack in learning these skills, including before the appearance of the condition, and 3. there is frequently a lack of stimulation against social isolation which generally accompanies the illness.[28]

Among the specific objectives of SST are developing assertiveness, conversation skills, medication control, job-hunting, recreational skills, skills for making friends, family communication, and conflict resolution.[28-33] This is achieved through a combination of techniques which include focused instructions, video-modeling, behavior trials with immediate feedback, cognitive restructuring, and planning generalization, focused on reducing apathy, memory difficulties, and inability to problem-solve.[34,35]

This is one of the most widely-used and assessed treatments in patients with schizophrenia due to its effectiveness in achieving patients acquiring and maintaining skills related to independent community functioning.[36]

Some meta-analyses[3,37] have concluded that the more behavioral the assessments, the better results in SST. As such, the majority of the investigations report greater effectiveness in skills and assertiveness acquisition than other conditions. In this last variable, positive and negative symptoms are not separated in the analysis of effect. Because of this, there is scarce evidence of the effectiveness of SST on symptoms of schizophrenia; in terms of positive symptoms, it has been reported that the benefit is reduced during the active phase of the therapy and is even lost over time.[38] Among the few studies which assess the effectiveness of this intervention on negative symptoms is that by Valencia et al.[29] which reports a reduction in negative symptomatology through social skills programs with a duration of six months to a year. In their study, Lecomte, Leclerc, and Wykes[39] found that in spite of there being a reduction in the severity of negative symptoms at the time of post-treatment, these results were not maintained at a 12-month follow-up.

Kurtz and Mueser[40] carried out a meta-analysis in which SST showed a medium effect in terms of social skills, daily life skills, functioning in the community, and negative symptoms, and a small effect in terms of positive and cognitive symptoms, and relapse prevention.

Over the past three decades, SST has been a central technique for treating the poor psychosocial functioning of patients with schizophrenia.[41,42] Nowadays, due to its effectiveness, various investigations continue to adapt and perfect the technique, aiming for better results; for example, virtual training to combat patient absenteeism from treatment[43] or combining this type of psychosocial intervention with other types of therapy[44] to improve results in patients with predominantly negative symptoms who are generally refractory in SST due to cognitive deterioration limiting their potential for learning.[45]

The fact that there are very few investigations into SST which assess negative symptoms may be because initially, this type of psychosocial intervention was not conceptual-

Translation of the original version published in spanish in: Salud Mental 2015, Vol. 38 Issue No. 5.

ized to treat the symptoms of schizophrenia, but rather to increase functionality and drive the patient towards an independent life. Despite the existence of research which tests the effectiveness of this therapy in reducing negative symptoms, it is clear that the effect is not great and is short-lived.

Cognitive rehabilitation

Cognitive rehabilitation therapy is defined as behavioral training which aims to improve cognitive processes (attention, memory, executive functions, social cognition, or metacognition) with the aim of increasing their duration and generalization.[46] It has been identified that patients with schizophrenia have cognitive deficits in verbal declarative memory, executive functions, sustained attention, and working memory. These alterations are associated with deficits in social and occupational functioning and in the ability to live independently. Along this vein, researchers have recognized the need to focus clinical practice in accordance with these incapacities by means of therapy oriented towards cognitive deterioration.[47] Cognitive rehabilitation gained popularity in the 1990s due to the surge in researchers who set out cognitive disorders of schizophrenia as nodal points of the illness.[48]

There is sufficient empirical evidence that this type of intervention has medium to large effects on the recovery of patients' cognitive capacities;[48-50] in general, studies oriented towards evaluating their effectiveness are focused on variables such as attention, memory, and executive function,[51-53] in other words, variables related to basic mental processes that are generally seen as effective.

However, Pfammatter et al.[3] reported that of 63 studies which assessed the effectiveness of cognitive behavioral therapy, only nine assessed negative symptoms, and the size of the effect on that variable was small. Other meta-analyses conclude that despite the effectiveness of this type of intervention having been proven on social cognition, social functioning, and general psychopathology,[51-53] this is limited and it is not possible to ensure that the results will be maintained over time.

The little research that reflects positive results in terms of this type of intervention on negative symptoms deals with computer-assisted cognitive rehabilitation,[54] recently-diagnosed patients,[55] psychological therapies which make up more than one mode of intervention,[56,57] and neuro-cognitive rehabilitation.[58]

One recent study compared the effects of cognitive rehabilitation therapy and SST for schizophrenia; it concluded that both had a moderate effect in reducing negative symptoms and that there were no significant differences between both types of intervention.[59] The results of this study invite the search for interventions which have a greater effect on factors which intervene in the effectiveness of different types of psychotherapy for schizophrenia.

Cognitive therapy for positive symptoms

Cognitive therapy for positive symptoms is aimed at providing tools to manage psychotic experiences, teaching the patient not only to restructure their beliefs about the nature of these experiences, but also to give a psychological sense of their positive symptoms.[60] Due to the relationship between intense negative emotions and exacerbation of positive symptoms, cognitive therapy must include training in emotional control based on techniques for relaxation, breathing, stopping thoughts, and cognitive restructuring of beliefs associated with those emotions.[61]

Different studies show evidence of the effectiveness of cognitive therapy for reducing the severity of positive symptomatology,[62-64] anxiety produced by delusions,[62] the number of days of hospitalization,[63] and even symptoms of depression.[64]

However, in a systematic review[65] of investigations carried out with this type of psychosocial treatment, it was concluded that although this intervention is effective for reducing positive symptoms (even in patients with positive symptoms that are resistant to medication),[66] it has a mild effect on negative symptoms and social functioning.

In any case, its potential for reducing the severity of negative symptoms[64,67] must be assessed in methodologically rigorous clinical trials[68] specifically oriented towards determining its effect on negative symptoms, as the inclusion criteria to assess the effectiveness of this intervention have been restrictive, especially with patients who had cognitive deterioration, poor social functioning, and predominantly negative symptoms.

Recovery-oriented cognitive behavioral therapy

Faced with the need for empirical evidence for the effectiveness of CBT in patients with predominantly negative symptomatology, Grant et al.[14] designed and assessed the effectiveness of a CBT for schizophrenia based on the movement of recovery and specialized in patients with low psychosocial functioning and a predominance of negative symptoms. They called this Cognitive behavioral therapy for low-functioning patients or Recovery-oriented cognitive behavioral therapy (CBT-R).

The term 'recovery' has been controversial in schizophrenia, due to some health professionals considering it a chronic condition with persistent, recurrent, and debilitating symptoms which remove hope for a recovery of psychosocial functioning. However, there are investigations which show that the factors which influence recovery are susceptible to change through treatment; it is therefore possible that patients can achieve a sustained remission in the symptoms and better levels of functioning.[69]

Some of the characteristics which a recovery-oriented

Translation of the original version published in spanish in: Salud Mental 2015, Vol. 38 Issue No. 5.

treatment must meet are: that the patient determines their own goals and individual patterns of recovery (according to their characteristics), support in decision-making which affects their life, and a motivating message in which recovery is seen as continuous.[70]

The adaptation of the CBT-R (which originally lasted a year and a half) to a therapy made up of 20 sessions called Cognitive behavioral therapy for negative symptoms (CBT-N)[71,72] has shown effectiveness in notably reducing the severity of negative symptoms and dysfunctional beliefs around the skills, emotional experiences, and socialization of patients; however, the authors also indicate that new investigations should be carried out with control patients and with long-term follow-up.

DISCUSSION AND CONCLUSION

Among the psychotherapeutic approaches directed towards patients with schizophrenia, cognitive behavioral therapy is one which has greater evidence of effectiveness,[3,60-62] both in reducing positive and negative symptoms and in improving patients' general functioning; however, despite advances in both pharmacological and psychosocial treatments, the problems generated by negative symptomatology in patients diagnosed with schizophrenia are still a long way from being resolved.

This may be due to negative symptoms tending to persist over time, as they are associated with cognitive deficits, they respond less to neuroleptic treatments, and the characteristic loss of energy becomes a great challenge to the patient attending psychotherapy.

The present review confirms the scarcity of studies dedicated to specifically evaluating the effectiveness of psychosocial interventions on the negative symptoms of patients with schizophrenia.[64,67,68] The majority of the meta-analyses and reviews in this regard[4,6,68,71-73] indicate the need to generate solid scientific evidence in relation to the treatment of these symptoms.

Despite CBT having shown a medium effect in treating positive symptoms,[3] patients with negative symptomatology have been left aside, because they normally have cognitive deficits. In the meta-analysis by Wykes,[68] for example, only one study assessed the negative symptoms as a primary treatment-dependent variable, revealing a moderate sized effect in patients without an important cognitive deterioration.

When comparing the scarce evidence generated in this field, it is possible to conclude that of the different cognitive behavioral techniques for treating schizophrenia, Recovery-oriented cognitive behavioral therapy (CBT-R) has the most effect on the negative symptoms[14,69] which make both patients' independent living and psychosocial functioning difficult.[74] Its implementation, in combination with pharmacological and psychosocial treatment of positive symptomatology may constitute a significant advance in the treatment that people who have schizophrenia require and deserve.

Funding

None.

Conflict of Interest

The authors do not declare any conflicts of interest.

Acknowledgements

The present text is part of the Doctoral work of Tania Morales Vigil, who received a grant from the Consejo Nacional de Ciencia y Tecnología (National Science and Technology Council - CONACYT) to finance her studies in the School of Psychology at the National Autonomous University of Mexico.

REFERENCES

1. Laughren T, Levin R. Food and Drug Administration perspective on negative symptoms in schizophrenia as a target for a drug treatment claim. Schizophr Bull 2006;32:220-222.
2. Kurtz MM. Symptoms versus neurocognitive test performance as predictors of psychosocial status in schizophrenia: a 1- and 4-year prospective study. Schizophr Bull 2005;31:167-174.
3. Pfammatter M, Junghan U, Brenner H. Efficacy of psychological therapy in schizophrenia: Conclusions from meta-analyses. Schizophrenia Bull 2006;32(1):64-80.
4. Slade P, Hadock G. A historical overview of psychological treatments for psychotic symptoms. En: Hadock G, Slade P (eds.). Cognitive-behavioural interventions with psychotic disorders. Londres: Routledge; 1996.
5. Kuipers E. The role of CBT in relapse prevention of schizophrenia. Schizophr Res 2012;136(1):58-59.
6. Kern R, Glynn S, Horan W, Marder S. Psychosocial treatments to promote functional recovery in schizophrenia. Schizophrenia Bull 2009;35(2):347-361.
7. Roder V, Müller D, Brenner H, Spaulding W. Integrated Psychological Therapy (IPT) for the treatment of neurocognition, social cognition and social competency in schizophrenia patients. Massachusetts: Hogrefe; 2011.
8. Tai S, Turkington D. The evolution of cognitive behavior therapy for schizophrenia: current practice and recent developments. Schizophrenia Bull 2009;35:865-873.
9. Xia J, Merinder L, Belgamwar M. Psychoeducation for schizophrenia. Schizophrenia Bull 2011;37(1):21-22.
10. Granholm E, Ben-Zeev D, Link P. Social disinterest attitudes and group cognitive-behavioral social skills training for functional disability in schizophrenia. Schizophrenia Bull 2009;35(5):874-883.
11. Redoblado M, Siciliano D, Withey P, Moss B et al. A randomized controlled trial of cognitive remediation in schizophrenia. Schizophrenia Bull 2010;36(2):419-427.
12. Brabban A, Tai S, Turkington D. Predictors of outcome in brief cognitive therapy for schizophrenia. Schizophrenia Bull 2009;35(5):859-864.
13. Chadwick P, Birchwood M, Trower P. Cognitive therapy for delusions, voices and paranoia. Inglaterra: Wiley; 1996.
14. Grant P, Huh G, Perivoliotis D, Stolar N et al. Randomized trial to evaluate the efficacy of cognitive therapy for low-functioning patients with schizophrenia. Arch Gen Psychiat 2012;69(2):121-127.

Translation of the original version published in spanish in: Salud Mental 2015, Vol. 38 Issue No. 5.

15. Woo S, Goldstein M, Nuechterlein K. Relatives´ affecting style and the expression of subclinical psicopathology in patients with schizophrenia. Fam Process 2004;43:233-247.
16. Fresán A, Apiquián R, Ulloa R, Loyzaga C et al. Ambiente familiar y psicoeducación en el primer episodio de esquizofrenia: resultados preliminares. Salud Mental 2001;24(4):36-40.
17. Bebbington P, Kuipers L. The predictive utility of expressed emotion in schizophrenia: Aggregate analysis. Psychol Med 1994;24:707-718.
18. Weisman A. Integrating culturally-based aproachments with existing interventions for hispanic/latino families coping with schizophrenia. Psychotherapy: Theory, Research, Practice, Training 2005;42:178-197.
19. Vallina O, Lemos S, Fernández P. Estado actual de la detección e intervención temprana en psicosis. Apuntes Psicología 2006;24(1-3):185-221.
20. Baüml J, Froböse T, Kraemer S, Rentrop M et al. Psychoeducation: a basic psychotherapeutic intervention for patients with schizophrenia and their families. Schizophrenia Bull 2006;32(1):1-9.
21. Sin J, Norman I. Psychoeducational interventions for family members of people with schizophrenia: a mixed-method systematic review. J Clin Psychiat 2013;74(12):1145-1162.
22. Leff J, Kuipers L, Berkowitz R, Sturgeon D. A controlled trial of social intervention in the families of schizophrenic patients. Brit J Psychiat 1985;146:594-600.
23. Hogarty G, Anderson C, Reiss D, Kornblith S et al. Family psychoeducation, social skills training, and maintenance chemotherapy in the aftercare treatment of schizophrenia. Arch Gen Psychiat 1991;48(4):340-347.
24. Dixon L, Adams C, Luckstead A. Update of family psicoeducation for schizophrenia. Schizophrenia Bull 2000;26:5-20.
25. Xiong W, Phillips M, Hu X, RuiWen W et al. Family based intervention of schizophrenic in China. A randomized control trial. Brit J Psychiat 1994;165:501-506.
26. Pharoah F, Mari J, Streiner D. Family intervention for schizophrenia. Oxford: The Cochrane Library; 2005.
27. Dyck DG, Short RA, Hendryx MS, Norell D et al. Management of negative symptoms among patients with schizophrenia attending multiple-family groups. Psychiat Serv 2000;51(4):513-519.
28. Mueser K. Tratamiento cognitivo-conductual de la esquizofrenia. En: Caballo V (dir.) Manual para el tratamiento cognitivo/conductual de los trastornos psicológicos. Vol. 1. Madrid: Siglo XXI; 1997.
29. Valencia M, Liberman R, Rascón M, Juárez F. Habilidades psicosociales para la esquizofrenia. En: Valencia M (comp.). Alternativas terapéuticas para la esquizofrenia. México: Herder; 2012; pp. 23-71.
30. Valencia M, Rascón M, Ortega-Soto H. El tratamiento psicosocial en los pacientes con esquizofrenia. En: Ortega-Soto H, Valencia-Collazos M (eds.). Esquizofrenia. Estado actual y perspectivas. México: Publicaciones del Instituto Nacional de Psiquiatría Ramón de la Fuente Muñiz; 2001.
31. Valencia M, Rascón M, Quiroga H. Aportaciones de la investigación respecto al tratamiento psicosocial y familiar de pacientes con esquizofrenia. Salud Mental 2003;26(5):1-18.
32. Valencia M, Ortega-Soto H, Rodríguez M, Gómez L. Estudio comparativo de consideraciones clínicas y psicoterapéuticas en el tratamiento biopsicosocial de la esquizofrenia. Primera parte. Salud Mental 2004;27(3):47-53.
33. Valencia M, Díaz A, Juárez F. Integration of pharmacological and psychosocial treatment for schizophrenia in Mexico: The case of a developing country proposal. En: Badria F (ed.). Pharmacotherapy. EUA: InTech; 2012; pp. 41-69.
34. Bellack A, Mueser K, Gingerich S, Agresta J. Social skills training for schizophrenia: A step by step guide. Nueva York: Guilford Press; 1997.
35. Liberman R, DeRisi W, Mueser K. Social skills training for psychiatric patients: Psychology practitioners guidebooks. Nueva York: Pergamon Press; 1989.
36. Heinssen R, Liberman R, Kopelowikz R. Psychosocial skills training for schizophrenia: Lessons from laboratory. Schizophrenia Bull 2000;26:21-46.
37. Benton M, Schroeder H, Social skills training with schizophrenics. A meta-analytic evaluation. J Consult Clin Psych 1990;58:741-747.
38. Marder S, Wirshing W, Mintz J, McKenzie J et al. Two-year outcome of social skills training and group psychotherapy for outpatients with schizophrenia. Am J Psychiat 1996;153:1585-1592.
39. Lecomte T, Leclerc C, Wykes T. Group CBT for early psychosis-are there still benefits one year later? International J Group Psychotherapy 2012;62(2):309-321.
40. Kurtz M, Mueser K. A meta-analysis of controlled research on social skills training for schizophrenia. J Consult Clin Psych 2008;76:491-504.
41. Brady J. Social skills training for psychiatric patients, II: Clinical outcome studies. Am J Psychiat 1984;141:491-498.
42. Haldford W, Hayes R. Social skills training with schizophrenic patients. En: Kavanagh D (ed.). Schizophrenia: An overview and practical handbook. Londres: Chapman & Hall; 1992.
43. Rus-Calafell M, Gutiérrez-Maldonado J, Ribas-Sabaté J. A virtual reality-integrated program for improving social skills in patients with schizophrenia: A pilot study. J Behav Ther Exp Psy 2014;45(1):81-89.
44. Elis O, Caponigro J, Kring A. Psychosocial treatments for negative symptoms in schizophrenia: Current practices and future directions. Clin Psychol Rev 2013;33:914-928.
45. Kopelowicz A, Wallace C, Zarate R. Teaching psychiatric inpatients to re-enter the comunity: A brief method of improving the continuity of care. Psychiatr Serv 1998;49:1313-1316.
46. Wykes T, Huddy V, Cellard C, McGurk S, Czobor P. A meta-analysis of cognitive remediation for schizophrenia: Methodology and effect sizes. Am J Psychiat 2011;168:472-485.
47. Barrera A. Los trastornos cognitivos de la esquizofrenia. Rev Chil Neuropsi 2006;44(3):215-221.
48. Pardo V. Trastornos cognitivos en la esquizofrenia. Estudios cognitivos de pacientes esquizofrénicos puestos al día. Rev Psiquiat Urug 2005;69(1):71-83.
49. Hayes R, McGrath J. Cognitive rehabilitation for people with schizophrenia and related conditions. Oxford: The Cochrane Library; 2005.
50. Twamley E, Jeste D, Bellack A. A review of cognitive training in schizophrenia. Schizophrenia Bull 2003;29:359-382.
51. Grynszpan O, Perbal S, Pelissolo A, Fossati P et al. Efficacy and specificity of computer-assisted cognitive remediation in schizophrenia: a meta-analytical study. Psychol Med 2011;41:163-173.
52. McGurk S, Twamley E, Sitzer D, Mchugo G et al. A meta-analysis of cognitive remediation in schizophrenia. Am J Psychiat 2007;164:1791-1802.
53. Krabbendam L, Aleman A. Cognitive rehabilitation in schizophrenia: a quantitive analysis of controlled studies. Psychopharmacology 2003;169:376-382.
54. Bellucci DM, Glaberman K, Haslam N. Computer-assisted cognitive rehabilitation reduces negative symptoms in the severely mentally ill. Schizophr Res 2003;59:225–232.
55. Eack SM, Greenwald DP, Hogarty SS et al. Cognitive enhancement therapy for early-course schizophrenia: effects of a two-year randomized controlled trial. Psychiatr Serv 2009;60:1468–1476.
56. Roder V, Mueller DR, Schmidt SJ. Effectiveness of integrated psychological therapy (IPT) for schizophrenia patients: a research update. Schizophr Bull 2011;37(Suppl 2):S71–S79.
57. Iwata K. Efficacy and application of cognitive rehabilitation: the importance of combining social skills training with cognitive rehabilitation. Psychiat Neurol Jap 2013;115(4):406-12.
58. Sánchez P, Peña J, Bengoetxea E, Ojeda N et al. Improvements in negative symptoms and functional outcome after a new generation cognitive remediation program: A randomized control trial. Schizophr Bull 2013; doi:10.1093/schbul/sbt057.
59. Klinberg S, Wölfgang W, Engel C, Wittorf A et al. Negative symptoms of schizophrenia as a target of cognitive behavioral therapy. Results of the randomized clinical tones study. Schizophrenia Bull 2011;37(2):98-110.

Translation of the original version published in spanish in: Salud Mental 2015, Vol. 38 Issue No. 5.

60. **Yusupoff L, Haddock G, Sellwood W, Tarrier N. Cognitive behavioural therapy for hallucinations and delusions: current practices and future trends. En: Salkovskis P (ed.). Trends in cognitive and behavioural therapies. Londres: Wiley; 1996; pp. 133-146.**
61. **Robles R, Paéz F, González J. Terapia cognitivo conductual para los trastornos psicóticos: fundamentos, evaluación y aplicación a propósito de un caso. En: Valencia M (comp.). Alternativas terapéuticas para la esquizofrenia. México: Herder; 2012; pp.331-361.**
62. **Kuipers E, Fowler D, Garety P, Chisholm D et al. London-east anglia randomised controlled trial of cognitive behavioural therapy for psychosis, III: follow-up and economic evaluation at 18 months. Brit J Psychiat 1998;173:61-68.**
63. **Tarrier N, Yusupoff L, Kinney C, McCarthy E et al. Randomised controlled trial of intensive cognitive behaviour therapy for patients with chronic schizophrenia. Brit Med J 1998;317:303-307.**
64. **Sensky T, Turkington D, Kingdon D, Scott J et al. A randomized controlled trial of cognitive-behavioral therapy for persistent symptoms in schizophrenia resistant to medication. Arch Gen Psychiat 2000;57:165-172.**
65. **Perona S, Cuevas C. Efectividad de la terapia cognitivo-conductual individual aplicada a los síntomas psicóticos. 1. Revisión de los diseños experimentales de caso único aplicado al tratamiento de las ideas delirantes. Aptes Psicol 1999;17(1 y 2):31-48.**
66. **Erickson DH. Cognitive-behaviour therapy for medication-resistant positive symptoms in early psychosis: a case series. Early Interv Psychiat 2010;4(3):251-256.**
67. **Rector N, Beck A. Cognitive behavioral therapy for schizophrenia: an empirical review. J Nerv Mental Dis 2001;189:278–287.**
68. **Wykes T, Steel C, Everitt B, Tarrier N. Cognitive behavior therapy for schizophrenia: effect sizes, clinical models, and methodological rigor. Schizophr Bull 2008;34(3):523-537.**
69. **Harding C, Zubin J, Strauss J. Chronicity in schizophrenia: revisited. Brit J Psychiat 1992;161(18):27-37.**
70. **Bellack A. Scientific and consumer models of recovery in schizophrenia: concordance, contrasts and implications. Schizophrenia Bull 2006;32(3):432-442.**
71. **Staring A, Huurne M, van der Gaag M. Cognitive behavioral therapy for negative symptoms (CBT-n) in psychotic disorders: A pilot study. Behav Ther Exp Psy 2013;44:300-306.**
72. **Turkington D, Morrison A. Cognitive therapy for negative symptoms of schizophrenia. Arch Gen Psychiat 2011;69(2):119-120.**
73. **Ellis O, Caponigro J, Kring A. Psychosocial treatments for negative symptoms in schizophrenia: Current practices and future directions. Clin Psychol Rev 2013;33:914-928.**
74. **Liberman R, Kopelwicz A. Un enfoque empírico de la recuperación de la esquizofrenia. Definir la recuperación e identificar los factores que pueden facilitarla. Rehabil Psicosoc 2004;1:12-29.**

Translation of the original version published in spanish in:
Salud Mental 2015, Vol. 38 Issue No. 5.