Review

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Cognitive therapy in early psychosis and «at risk mental state»

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Evidence suggests that the early course of psychosis might be important in the long term outcome of the disease. Moreover, pharmacological treatment has important limitations in this population which has increased the interest in the combination of psychological and biological treatments. Recently, cognitive therapy has been modified and applied to the field of psychosis. For decades several studies have shown its effectiveness in the treatment of psychotic symptoms which has led to formulate new and more comprehensive cognitive treatments for early psychosis. These new cognitive approaches have been assessed in clinical trials. In the same way, the study of the pre-psychotic phase and prevention of illness is becoming important. Two aspects are especially relevant in this regards: the possibility of prospective detection of patients at risk of developing psychosis and the search for adequate treatments in this phase. Recent studies concerning early and pre-onset psychosis cognitive treatment are reviewed by the authors.

Key words:
First episodes psychosis. Schizophrenia. Cognitive behavioural therapy. Psychological treatment. Prodrome. Prevention.

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Terapia cognitiva en psicosis de inicio reciente y «estado mental de riesgo»

Diferentes investigaciones sugieren que las fases tempranas de las psicosis pueden tener una influencia decisiva en el curso posterior de la enfermedad. Además, el tratamiento farmacológico plantea importantes limitaciones en esta población, aspecto que ha favorecido el interés por la combinación de tratamientos psicológicos y biológicos. La terapia cognitiva ha sido adaptada y aplicada al campo de la psicosis. La evidencia que sugiere desde hace décadas su eficacia en el tratamiento de síntomas psicóticos ha llevado al desarrollo de modelos de tratamiento cognitivo más complejos, de variado enfoque terapéutico y a la evaluación de su eficacia en estudios controlados. Este interés también se ha extendido al estudio de las fases prepsicóticas y a la posibilidad de prevención de la enfermedad. Dos aspectos adquieren especial relevancia en este ámbito: la posibilidad de detección prospectiva de individuos en estado de riesgo de desarrollar psicosis y la provisión de tratamientos adecuados en estas circunstancias. Los autores revisan la literatura reciente relativa al tratamiento cognitivo de fases tempranas de las psicosis y estado mental de riesgo.

Palabras clave:
Primeros episodios de psicosis. Esquizofrenia. Terapia cognitivo-conductual. Tratamiento psicológico. Pródromos. Prevención.

INTRODUCTION

In the last two decades, the study of early phases of psychoses has taken on great relevance due to the possibilities of preventive treatment[1] and to less likelihood of presence of confounding variables in the research studies[2]. The possibilities of prevention in treatment of first episode psychosis are justified by the evidence of delay in providing specialized treatment after the first symptoms of the disease appear[3].

Prospective longitudinal studies conducted in first episode psychosis populations have shown that the first 3-5 years of the disease course have a great influence on the subsequent course of the symptoms and psychosocial functioning level[4]. Two longitudinal investigations conducted in order to analyze the impact of relapses on the long term course of the disease showed that with each relapse, the likelihood increases that there would be symptoms that did not respond to drug treatment[5] and that one out of every 6 patients suffer residual symptoms not previously suffered[6]. This may have greater significance if we consider that up to 80 % of the patients will have a relapse in the first 5 years[7]. In a study on the risk of suicide, they found that 66 % occurred in the first 6 years of the disease course[8]. This is especially relevant in schizophrenia that is associated to a 20 times

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greater risk of suicide than in the general population. These, and other data, have led to the consideration of the early phase of the disease as a critical period for the patient with psychosis[9].

However, in spite of an optimal practice in the treatment from the pharmacological point of view, this poses important problems and limitations in persons with first episode psychosis. In the first place, providing drug treatment without appropriate psychoeducation and psychotherapy could give the patient and family a biologicistic view of the disorder, increasing hopelessness and attitudes of helplessness towards the disease[10] and making the involvement of the patient in his/her own recovery difficult[11]. On the other hand, drug compliance is especially problematic in this population[12] and there is a significant percentage of patients with poor response to psychodrugs, even when dosage intake is adequately fulfilled[13,14]. Furthermore, biological treatments for the psychotic symptoms are not effective in treatment of depression[15], demoralization and self and hetero-stigmatization[16] that may be in the basis of social isolation and interruption of evolutive development, of great importance in this population[17]. Finally, other problems such as stress or family burn-out, present from the first episode[18] and substance abuse, that has been associated with a worse disease course[19] and lower quality of life[20], justify only to well the adding of drug treatment to specialized psychological treatments.

For these reasons, special importance has been given in recent years to research and integration of psychosocial and biological treatments and to the development of new psychotherapeutic approaches based on better knowledge of the disease. Through the Cantabria intervention program of first-episode psychosis (PAFIP), global care is offered to the first episode psychosis of the Cantabria community that includes psychological and pharmacological treatments that have been shown to be efficient in this population. This program involves adapting other international units of specialized care to early psychosis to the National Health System and offers the patients the possibility of participating in research projects. A more detailed description of the program has been recently published[21].

COGNITIVE MODELS OF PSYCHOSIS

Investigation of cognitive conditions involved in the appearance and maintenance of psychotic symptoms and comorbid symptoms and signs has been fundamentally developed in the last 15 years. Cognitive models of psychosis suggest that the nuclear symptoms of the disease are derived from basic alterations in the information processing that lead to perceptive abnormalities and altered experience of self[22,23].

The study of the basic processes in psychosis has suggested that hallucinations and delusions could be extreme variants of the cognitive conditions involved in the formation and evaluation of beliefs. These processes could underlie the formation of extreme beliefs or delusions through overestimation of coincidences[24], jumping to conclusions[25] or by the generation of cognitive errors in order to protect a vulnerable self-esteem[26]. The presence of deficit in perceptive processes, with selective attention to threatening information[27], could also play a role in the formation of these beliefs. These tendencies would be more prevalent or intense in persons with psychosis than in the general population. Once formed, they could be maintained in the same way as the rest of the ordinary beliefs, tending to give greater importance to confirmatory information and minimizing or ignoring disconfirmatory information[28].

Similar basic cognitive processes could underlie the basis of the hallucinations. Auditory hallucinations are present in 5 % of the general population[29]. However, while most recognize them as being internally generated, patients with psychosis are more prone to interpret them as an externally caused phenomenon, frequently having a malevolent origin[30]. The study of the cognitive mechanisms involved in this error of interpretation of the stimulation source has acquired relevance at present[31,32]. On the other hand, patients with psychosis who hear voices have a certain susceptibility to erroneously interpret ambiguous external stimuli[30,33]. Once the hallucinations are formed, expectations[34], continuous stress[35] or beliefs on the identity of the voices[36,37] could be involved in their maintenance. The Birchwood and Chadwick[36] study is especially important, suggesting that the repercussion generated by the voices is not due to their frequency, duration, form or content, but rather to idiosyncratic beliefs that the person has on their identity.

Finally, we want to mention that the idea of cognitive mechanisms involved in the appearance and persistence of psychotic symptoms as extreme variants of normal cognitive processes present in the general population is also supported by studies on distribution of psychotic symptoms in the population. These conclude that these are extreme points of dimensions present in the general population[38,39].

Study and research on the cognitive processes involved in psychosis is of vital importance, not only for better understanding of the disease but also for the development of new, more effective, specific cognitive therapies based on better knowledge of the psychological functioning of the psychosis.

COGNITIVE THERAPY IN PSYCHOSIS

Although cognitive therapy has been conducted within in a therapeutic approach of wide use and empirically guaranteed efficacy[40], it has only formed a part of the recommendations for optimum treatment of psychosis in the last decade. Cognitive therapy in psychosis has been developed

from the principles of cognitive-behavior intervention previously applied in the treatment of anxiety[41] and depression[42], but has been modified and adapted to treatment of psychotic symptoms, using a vulnerability-stress model and biopsychosocial understanding of the disease[43]. This model provides a framework for the development of psychological treatments during the disease course, through the implementation of coping strategies that could reduce the influence of this vulnerability[44].

There would be two ideas in the basis of the application of cognitive behavior strategies to the treatment of psychosis. In the first place, the psychotic symptoms are defined by a specific interaction of cognitive, behavioral, physiological and environmental factors. On the other hand, there are deficit maintenance factors present in the disease that may be modified using cognitive behavior strategies without considering the symptom etiology.

Specific cognitive behavior strategies for the treatment of hallucinations and delusions have been used for decades[45-48]. Bouchard et al.[49] quantitatively analyzed the results of these first studies, concluding that cognitive restructuration is capable of achieving significant reductions in these symptoms. Based on these promising findings, different authors have developed more complete and integrating cognitive interventions in the treatment of psychosis[10,50,52]. These interventions differ somewhat in treatment objectives and structure. However, they have a series of common aspects in the cognitive conceptualization of psychotic disorders and in therapeutic objectives and tasks[28]. The objectives in common are: *a)* establishment of a strong therapeutic alliance based on collaboration, acceptance and support; *b)* psychoeducation on the nature of psychosis within a biopsychosocial model in order to reduce stigma and normalize psychotic experience; *c)* reduction of malaise and stress associated with the disease; *d)* use of cognitive behavior strategies to reduce frequency of hallucinations and delusions and stress associated to these symptoms; *e)* providing treatment strategies of comorbid symptoms such as depressive or anxious symptoms; and *f)* avoiding or reducing the probability of relapse.

Although these interventions have not been specifically developed for treatment of first episode psychosis, they have largely served as the basis on which intervention strategies have been implemented in the early phases of the disease.

COGNITIVE THERAPY IN THE FIRST EPISODE PSYCHOSIS

Recent clinical trials have shown that cognitive behavior therapy may be effective in the treatment of patients with chronic psychosis and persistent symptoms[53,54]. Three present reviews on the subject conclude that these interventions show results with clinically and statistically significant effects on positive symptoms (especially delusions) and negative ones when they are compared to usual treatment. However, these same reviews recommend conducting studies that allow for comparison of different types of treatment and greater follow-up periods that make it possible to evaluate the impact of the interventions on the relapse rate and long term psychosocial functioning[28,55,56].

In spite of these findings, efficacy of cognitive behavioral interventions in recent onset psychosis has been relatively unevaluated. However, there is a small but reviewable number of clinical trials conducted in this population. These studies could be subdivided into two groups: those that investigate efficacy of more specific or selective interventions[13,57-58], and those that use a wider approach, studying the repercussion of these interventions on the recovery level[60-62] or the disease adjustment[16].

Within these interventions, special mention should be given to those aimed at treatment of persistent symptoms in first episode psychosis. A cognitive intervention aimed at treatment of these symptoms called STOPP (Systematic Treatment of Persistent Symptoms) has been developed within the context of the EPPIC (Early Psychosis Prevention and Intervention Centre) program in Melbourne. STOPP is a structured intervention based on the principles of those developed by Chadwick, Birchwood and Trower[50] in chronic schizophrenia. It begins with an extensive and multidimensional psychopathological evaluation including coping style, comorbid factors and variables contributing to the persistence of the symptoms. The intervention groups cognitive, behavioral, psychodynamic and stress coping strategies[58]. The sessions last about 45 minutes, are held weekly and extend over a period of 12 weeks.

The most specific types of psychological treatments have focused on the approach of comorbid conditions in first episode psychosis, especially substance consumption and dysfunctional emotions (depression, post-traumatic stress, anxiety, etc.). Mark Hinton et al.[63] have developed a manualized intervention aimed at the treatment of cannabis and other drug abuse in this population. This intervention, which counted on the advise of international experts in the area in its development, is made up of six structured phases, distributed over nine weekly sessions. Influences of different therapeutic trends in the treatment of substance abuse (brief intervention, minimization of harm associated to consumption, change stages, motivational interview[64] and psychoeducation) are integrated in its content, also considering the idiosyncratic characteristics of these patients and the relationship between psychosis and cannabis[65].

Affective symptoms, as has already been previously mentioned, have made up another area of specific intervention in first episode psychosis. Recent prospective studies have shown that the severity of depression could be greater in first episode populations compared with samples of chronic

schizophrenia population[15]. Young[66] found that the suicide incidence may change rapidly during early phases of the disease, probably during the first months after leaving the hospital[67]. From a more cognitive perspective, Birchwood et al.[68] have associated the appearance of depressive symptoms to the evaluation and beliefs that the person with psychosis has towards the disease, of its consequences and the negative evaluations on oneself. On the other hand, it is been questioned if dysfunctional emotions are subordinated to positive symptoms of psychosis, and if improvement of these resolves those emotions[69]. Thus, due to its special relevance during the critical period of the disease onset, specific cognitive-behavioral interventions have been developed to prevent suicide. The objectives of these interventions are: *a)* provide psychoeducation about mechanisms involved in suicide; *b)* provide coping strategies to possible precipitants of the suicide act; *c)* provide training in help seeking strategies in crisis situations; *d)* strengthen the protection factors; *e)* psychoeducation on psychosis, and *f)* promote adjustment to the disease and losses[67]. At present, this specialized intervention is being manualized[70]. A study has been published recently on its efficacy. It concludes that the experimental treatment produces improvements in quality of life, decreases level of hopelessness and increases the scores in the subscales of reasons for living. No differences were found in the level of self-aggressions and suicide attempts, something that may be explained by the small sample size and in terms of statistical power[59].

Those aimed at the promotion of adjustment to the disea-se stand out among the interventions with a wider therapeutic approach. In this regards, a cognitive treatment oriented towards patients with first psychosis episode (Cognitively Oriented Psychotherapy for Early Psychosis, COPE) whose objective is to facilitate psychological adjustment to the disease and reduce secondary comorbidity associated to it has been developed within the EPPIC framework[71]. Based on those studies that show the importance of the psychological impact that may come from suffering the disease[68,72-74] COPE develops a sophisticated and complex cognitive therapy model oriented towards integration of psychosis in the patients' life[16]. At present, a new version of COPE is being developed and a study for the evaluation of its efficacy has been concluded very recently.

COGNITIVE INTERVENTIONS IN THE ACUTE PHASE

Interventions in the acute disease phase, this being by definition a moment of psychopathological exacerbation, have been traditionally limited to the necessary drug treatment. However, there are many cognitive aspects that must be considered based on the fact of initiating a drug treatment, having a first hospital admission, receiving diagnostic orientation, beginning to reelaborate the psychotic experience, to list only some aspects of the disease repercussion and the therapeutic procedure on the patient (speaking of the impact on the family is not within the objective of this study). Up to now, few investigations have focused on validating specific psychotherapeutic interventions in this phase or on proving here the efficacy of those applied at other moments of the disease. We review some of the exceptions that have been gathered in the literature in recent years.

Drury et al.[75,76] conducted a study in which 40 patients with acute symptoms were randomized into two groups, one group of intensive cognitive-behavioral intervention and another control group that included emotional support and recreational activities. The experimental intervention consisted in: *a)* individual cognitive therapy, in which the evidence that supported delusional ideation was analyzed together with the patient; *b)* group cognitive therapy, where the patients were stimulated to evaluate the objective evidence in favor of and against the delusional ideas of the remaining group members, that also included interventions aimed at the reduction of the stigma, promoting symptoms control and integrating the psychotic experience, and *c)* group family treatment, where psychoeducation, support and strategies of symptom management were provided. It was found that admission lengths were significantly shorter and the proportion of the patients who reached complete recovery was greater in the experimental group than in the control group. After a 5 year follow-up period, the experimental group continued to be superior in control perceived on the disease and in less specific symptoms[60]. However, this study had a series of methodological limitations. For example, the raters were not blind to the experimental conditions. On the other hand, the methodological design did not make it possible to define the relative influence of each one of the therapeutic modalities in the result obtained.

Subsequent to the Drury et al. study on cognitive-behavioral therapy focused on the treatment of acute psychotic symptoms, a pilot study arose that aimed to evaluate the efficacy of cognitive therapy administered alone, that is, in absence of group treatment, in early psychosis[61]. No significant benefits of cognitive therapy versus control treatment were found in this clinical trial, although there was clinically and statistically significant improvement in the control (support therapy and psychoeducation) and experimental groups (individual cognitive therapy). However, there were non-significant advantages in favor of cognitive therapy, suggesting that it lacked sufficient statistical power to demonstrate the superiority of the cognitive interventions versus other types of support therapy.

The SOCRATES multicenter study[77] was designed, using the mentioned pilot study of Haddock[61] as reference. In the SOCRATES study, 318 patients in acute phase of the disease were randomized to three treatment groups: cognitive treatment plus usual treatment, support therapy plus usual treatment, and only usual treatment. The study patients had first episode psychosis or second episodes if the latter oc-

curred within the two years after the first. Cognitive therapy was conducted for 5 months, with a mean of 15 to 20 individual sessions and 4 recall sessions. At 18 months of follow-up, the data showed significant improvement in all the groups. The patients assigned to the cognitive therapy group had recovered faster than those who received usual care. Although there were no global differences between the cognitive therapy group patients and those who received support therapy, a detailed analysis of the evolution of the symptoms showed that the patients with auditory hallucinations recovered faster with cognitive therapy than with support therapy. The authors concluded that psychological treatments in acute phase of recent onset psychosis are potentially beneficial and that cognitive therapy could be useful, specifically for those patients who suffer hallucinations.

The therapy conducted in the SOCRATES study followed the individual formulation of the case model including, with adaptations, the cognitive techniques developed by the Manchester group for chronic schizophrenia[61]. The SOCRATES model includes the following elements: establishment of therapeutic alliance, psychopathological evaluation and functional analysis of the case, normalization strategies and psychoeducation, individual formulation of the case, cognitive strategies for the management of symptoms, behavioral experiments, use of coping strategies, techniques for the management of negative symptoms, rational argument of nuclear beliefs and prevention of relapse.

OTHER COGNITIVE INTERVENTIONS OF SPECIAL INTEREST IN RECENT ONSET PSYCHOSIS

There are other interventions having great potential and applicability in this population. However, up to now, there is no strong evidence on their efficacy in first episode psychosis. This is the case of psychological interventions in relapse prevention and those whose objective is to strengthen drug and psychological treatment compliance.

As has been previously described, the evidence suggests a deteriorating progression of the disease with successive appearance of relapses in most of the patients[5,6]. This, together with the concerns and needs perceived by the persons suffering psychosis, where prevention of its occurrence is considered as one of the most important[77], justifies only to well the initiation and elaboration of specific interventions that make their prevention possible.

Two retrospective studies demonstrate that relapse did not occur suddenly but that most of the patients and families were capable of perceiving perceptive, cognitive and affective symptom changes prior to its complete appearance[79,80]. Based on these findings, different investigations tried to study these changes perceived by the patients and apply techniques of early identification of relapses with heterogeneous but encouraging results (for a review on the subject, see 81).

Several authors have recommended the application of cognitive strategies in combination with procedures to identify early signals in the prevention of relapses[82,83]. This approach would be based on the rational argument of the existing thoughts on symptom changes occurred and initiation of strategies that make it possible to control them. Two clinical trials show that psychological interventions may cause significant reductions in the relapse rate[54,84,85]. Although these studies do not specifically focus on the prevention of relapses and were not conducted in first episode psychosis populations, they offer promising results and show the potential of influence of non-pharmacological interventions in the disease course. Up to now, there are no studies published on specific cognitive interventions used in combination with detection of early signs whose specific objective is to reduce or prevent the appearance of relapses in recent onset psychosis. At present, two clinical trials are being conducted in order to evaluate the efficacy of these interventions in this population[11,81].

Regarding interventions aimed at the increase of therapeutic compliance, a very important aspect in the early phases of the disease[86], several systematic reviews have been recently published, suggesting their efficacy and utility in psychosis[87,88]. These findings are encouraging and make it necessary to evaluate the utility of these techniques in first episode psychosis populations, something that has been understudied up to now[87].

COGNITIVE INTERVENTIONS IN THE «AT RISK MENTAL STAGE»

Interest on the possibility of preventing or delaying the onset of psychotic disease is not new. By 1987, Chapman and Chapman[89] spoke about the search for predictive symptoms in schizophrenia as a nuclear and unavoidable aspect in the road towards a better understanding of the disease, towards a possible prevention or delay of its appearance. Since then, several authors have tried to identify these symptoms and provide a more operational and valid definition of them[90,91]. The term prodrome was used to describe this heterogeneous group of symptoms of previous onset to the disease or to the appearance of a relapse or exacerbation of symptoms in persons already affected by psychosis[80,92]. This term is an expression that comes from the Greek word prodrome, whose meaning is «precursor of an event». In medicine, the term prodrome is used to indicate the beginning of a certain disease, that is, it precedes the appearance of the disease itself. Thus, it is a retrospective term whose presence can only be confirmed by the subsequent appearance of a diagnosable picture. However, in the field of psychosis, it is assumed that the presence of symptoms prior to the disease is not a sign of unavoidable appearance of it but that, due to the biopsychosocial character and environmental interactions, its development may be interrupted[1,93-95]. That is why Yung and McGorry[96] made a review of the term, substituting it for that of «at risk mental

state», in order to avoid transmitting the idea that the appearance of the disease is unalterable.

There is presently renewed interest in the possible prevention or delay of occurrence of the psychotic disease. In this sense, retrospective investigators conducted in first episode psychosis populations showed the existence of symptoms prior to the appearance of the psychotic picture having a mean duration of 2 years[97,98]. This period is characterized by the progressive psychosocial[99,100] and biological[101] deterioration, something that justifies the impetus to search for interventions that can detain this deteriorating course before the full development of the disease.

Investigation in this setting is focused on two aspects: in the first place, is it possible to detect prospectively this high risk group within a reasonably short time period[102,103]? In the second place, what interventions are the best in this phase[95,104,105]?

A subprogram of EPPIC, called PACE Clinic (Personal Assessment and Crisis Evaluation), has defined this at risk mental state in an operative way, generating reasonable valid inclusion criteria and giving a new perspective to investigation in this field. This team has conducted different naturalistic studies to evaluate the possibility of prospectively detecting persons at risk of developing psychosis[106]. It was found that 40 % of the patients who fulfill inclusion criteria developed the disease in a follow-up period of one year, all this in spite of receiving a wide range of interventions for non-psychotic symptoms[107].

The same group has conducted the most relevant clinical trial up to date on interventions aimed at detaining the appearance of the disease in a high risk group[1]. Randomly, the patients received support therapy or an intervention that consisted in the combination of low dose drug treatment (risperidone) and a modality of cognitive therapy adapted to this phase prior to the appearance of frank psychosis (Specific Preventive Intervention, SPI). Both interventions were extended over a 6 month long period. The cognitive intervention consisted in four modules of variable application based on the individual formulation of the case: management of stress, depression/negative symptoms, positive symptoms, and other comorbid conditions (e.g., substance abuse, social phobia, etc.)[95]. At the end of the treatment, fewer persons developed the disease in the experimental group (SPI plus risperidone) than in the control group (support therapy). This difference was diluted at 12 months of follow-up. This study does not make it possible to analyze the relative effect of both types of intervention, but it is the only one up to now that suggests that psychological treatment may delay the onset of the disease in a high risk group.

CONCLUSIONS

Interventions in early phases of psychoses constitute an extension of the field of psychotherapeutic treatments applied with some success in chronic forms of schizophrenia. Preliminary results allow us to be optimistic on the possibility of incorporating therapeutic procedures complementary to the medication that reduce the direct or indirect negative impact of the disease, in its most critical phase, the early one, into the treatment of individuals with a first episode or risk at of suffering it. Beyond this, investigation on the psychological and cognitive aspects is contributing a wider view on the individual and on his/her recovery process, that goes beyond the traditional clinical view of the disease. The political, social and scientific movement that promulgated the reform of the mental health services available for persons with schizophrenia is the basis of all this interest on the early phases. Besides the interest in the treatments, there is concern for management, that is, for the way in which we provide them and their effects (psychological). The common base for these interventions is related with the strategies of normalization, destigmatization, with care in the use of language and the establishment of a therapeutic relationship of empathy and collaboration.

Both the prevention of the development of psychosis and detection and early intervention of the disease is considered an extremely important event that must be assumed by the health care institutions. This justifies the convenience and need to potentiate the development of intervention programs, and not only investigations ones, on the early phases of psychosis in our country, such as that which is being conducted in the Community of Cantabria[21].

The investigation will not only define which treatments are effectives, with whom, in what, when, but also why, that is, which are the specific components of the psychotherapeutic interventions necessary for their success: for prevention of and recovery from psychosis.

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