ORIGINAL ARTICLE

Comparison of Risperidone and Other Neuroleptics in the Management of Chronic Schizophrenia Using Cognitive Therapy

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Summary

A number of psychological approaches to alleviating psychotic symptoms have been reported in the literature. The latest technique among them is cognitive therapy (CT). This paper describes an open trial that makes use of cognitive psychotherapy to treat chronic drug resistant delusions (more than 2 years duration) in 20 patients with schizophrenia. The positive response of all patients with the absence of symptom replacement and maintenance of response at 3 months follow-up, seem to imply that this technique is useful and more effort needs to be invested into this new area of psychotherapy for psychosis. This paper also shows that those patients on risperidone maintenance respond better to CT than those on other neuroleptics.

Key Words: Delusion, Psychotherapy, Cognitive therapy, Schizophrenia, Risperidone

Introduction

Despite advances in pharmacological treatments for positive schizophrenia symptoms, many sufferers of schizophrenia continue to experience residual psychotic symptoms. In recent times too, there has been a growing interest in studying particular symptoms of psychosis, such as hallucinations and thought disorder[1,2].

However, in spite of the fact that delusions are extremely common in psychosis, this symptom has suffered experimental neglect[3,4,5]. Before we embark on a process of treatment of delusions, we have to understand the definition of delusions. Karl Jaspers[6] said of delusions: "The term delusions is vaguely applied to all false judgments that share the following characteristics to a marked, though undefined, degree: (a) they are held with an extraordinary conviction, with an incomparable, subjective certainty; (b) there is an imperviousness to other experiences and to compelling counter-argument; (c) their content is impossible". Jasper's work still stands as one of the most important treatises on delusions and his definition is the basis of modern definitions of delusions. This can be seen in a standard modern textbook of psychiatry where delusions are defined by Mullen[7] as having five elements; absolute conviction, self-evidence, lack of amenability to reason, fantastic or inherently unlikely content, and being a belief not shared by the believer's own subculture. However, modern understanding of delusions has lost some of the depth of the original works, and they are often viewed as unitary, all or nothing phenomena, particularly in relation to the diagnosis of psychosis. This view does not do justice to the known complexity of delusional experiences, and particularly to the complexity of the changes that occur during the process of recovery from delusions.

Our theoretical perspective on delusions has been influenced by two main sources, the literature on verbal self-regulation of behavior[8,9] and Maher's work on

delusions[10,11]. Our interest has been on the common features of delusional thinking. Maher[10,11] proposed that a delusion can be regarded as a normal attempt to make sense of an abnormal perceptual experience. A clear paradigm case would be a delusion that was secondary to auditory hallucinations, the argument here being that the hallucinations puzzled and perhaps distressed the individual concerned and so he or she searches for a meaningful explanation of them. The delusion would arise from this effort after meaning, and would be invested with psychological force of having rid the individual of the sense of bewilderment. According to Maher, the reasoning processing that produces delusions does not differ from that which produces so-called "normal" beliefs, it is just that bizarre perceptions demand bizarre explanations.

Maher's contention that a delusion may be rational, although incorrect, has been questioned recently with the discovery that people with delusions have biased reasoning[12]. Under certain experimental conditions people with delusions appear to show bias in their attributional style, in their judgment of covariance, and in their probabilistic reasoning[13].

Traditionally following the Diagnostic and Statistical Manual of Mental Disorders (DSM IV)[14] delusions have been defined on the basis of empirical claims of discontinuity e.g. as beliefs that were undeniably false, that were held with total and unshakable conviction, that were not shared by others with the same cultural background and that were based on incorrect inference. Individually these criteria have been disputed: thus, a delusion need not be false[15], it need not be held with absolute or unshakable conviction[16,17], and it need not be based on incorrect inference[18]. The criterion relating to the unusual content of delusions also may be questioned, since research has demonstrated how difficult it is to rate the "bizarreness" of delusions[18]. Traditional criteria have also been challenged by a radical and exciting call to define delusions as points on a continuum with normality, the position on this continuum being influenced by dimensions of delusional experience such as degree of belief conviction and the extent of preoccupation with the belief[19]. As well as stressing continuity, this new perspective also places great emphasis on the individual and on individual differences.

We have extensively reviewed techniques used to modify delusions based on the above theories in a previous paper[20] and suggested a treatment package. We have described two cases that we experimented successfully using the treatment package[21]. In this paper we studied 20 patients using the same technique but divided them into two groups in terms of type of drug maintenance used i.e. those on risperidone and those on other conventional neuroleptics. Our hypothesis was that those on risperidone would respond easier or faster to CT because of less impairment in their cognitive functions and they were therefore much more amenable to cognitive restructuring.

Materials and Methods

Subject

The patients selected for the study were those diagnosed as chronic schizophrenia based on the DSM 1V criteria[14] by an independent psychiatrist. They were all outpatients. All were in residual stages of the illness and were on maintenance doses of neuroleptics or risperidone. The total daily dose of each patient was 2 - 3mg. risperidone in the risperidone group or 350 - 500mg. chlorpromazine equivalent in the neuroleptic group. All had residual positive symptoms of delusion that has not responded further to drug treatment over two years or more. There were 10 patients in each group with 5 males and 5 females in each. There were no significant difference between the two groups with regards to age (mean age in control group = 36.7 years SD 9.7; study group = 37.1 SD 8.1 years); and duration of illness (mean duration in control group = 9.1 SD 5.9 years; study group = 9.2 SD 5.8 years). Subjects had been assigned to the treatment with risperidone, haloperidol or chlorpromazine by an independent psychiatrist. All the drugs were supplied by the hospital. No subjects had to buy their own drugs for this study.

Measures

Following Brett-Jones *et. al.*[16], we measured both degree of belief conviction and preoccupation. Following Hole *et. al.*[22] degree of conviction was also measured by asking for percentage rating of conviction. All measures were administered at the end of every session throughout the entire study.

Again in keeping with Brett-Jones *et. al.*[16], accommodation and reaction to hypothetical contradiction (RTHC) were assessed. These were assessed at the start of the sessions.

Because little is known about the potential effects on other behavior of the loss, or partial loss, of a delusion, it seemed desirable to cover at least some of the possible clinical ramifications. To achieve this, two further measures were used. These were the Hamilton Depression Scale (HDS)[23], Hamilton Anxiety Scale (HAS) and a short symptom checklist comprising the various schizophrenic delusions and hallucinations as described in Wing's Present State Examination[24]. It should be emphasized that the symptom checklist was used not in any diagnostic capacity but solely for descriptive purposes. These were administered both before and at the end of intervention phase, and at each follow-up date.

Procedure

Sessions lasting approximately 40 minutes to one hour each were conducted once a week throughout the study. All interviews were conducted by the author. A detailed description of the procedure can be found in Azhar and Varma[20].

(a) Baseline

Throughout this phase as much relevant data as possible about the patient's beliefs and evidences for the beliefs were established and patients were asked to rank them in order. At no point were their beliefs or evidences challenged at this time. This phase took a minimum of five weeks.

(b) Disputing beliefs

This phase took a maximum of 16 weeks. Following Brett-Jones *et. al.*[17] we assessed RTHC first. We then challenged the delusions using the "verbal challenge" procedure of Lowe and Chadwick[25], and incorporating the non-confrontational approach of Milton *et. al.*[26] and Watts *et. al.*[18]. This phase is ended with reality testing as described by Hole *et. al.*[22].

(c) Follow-up

To assess for maintenance of behaviour change, 1-month, 2-month, 3-month follow-up meetings were conducted. At these sessions all the measures were administered. After the final follow-up, an independent psychiatrist interviewed all patients to assess their conviction in the delusional belief at that point in time.

Results

Belief conviction

The primary measure of recovery from delusions was the degree of believe conviction. The beliefs used for assessment were broken down. Each belief was challenged separately during the intervention phase. During baseline sessions, percentage conviction was extremely stable for all patients. All patients in both group were able to reduce markedly their belief convictions throughout the intervention phase and maintained the reduction at follow-ups. There was no significant difference between the two groups but there is a trend towards better and faster change in the risperidone group (see Figure 1).

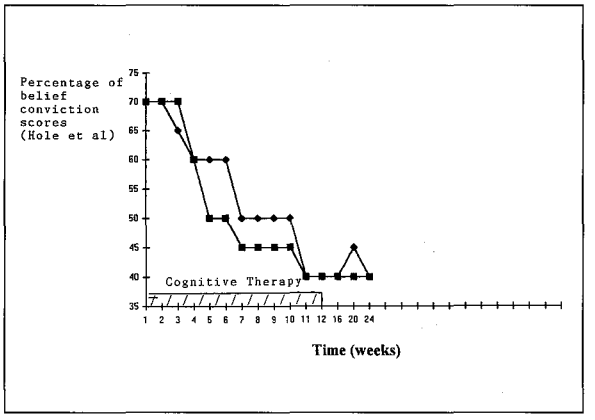

Fig. 1: Mean belief conviction scores (Hole *et al*) of patients receiving risperidone (—■—) and other neuroleptics (—◆—) during period of cognitive therapy and follow-up.

Accommodation

During the baseline interviews, all patients did not recognize any external event that caused them to reject their delusional belief or to lower conviction in that belief. However following the introduction of verbal challenge, all but one patient were able to report instances of disconfirmation. There was also no significant difference between the two groups. However, the risperidone group shows faster change (see Figure 2). Three patients on risperidone were able to accommodate at the 4th intervention week while only two patients on other neuroleptics could start to accommodate on the 6th intervention week. One patient from the other neuroleptic group could not accommodate throughout the study period.

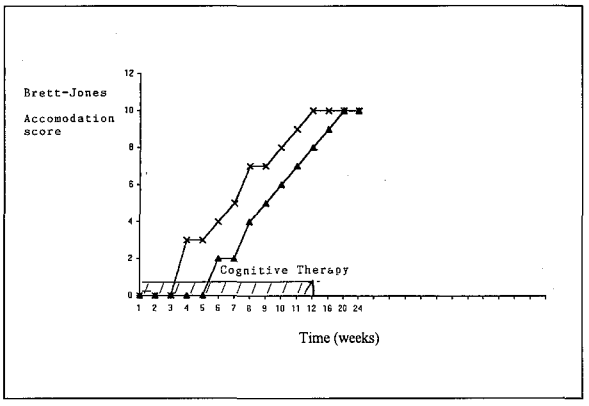

Fig. 2: Mean patients accomodation score while receiving risperidone (—×—) and other neuroleptics (—▲—) during period of cognitive Therapy and follow-up.

Reaction to hypothetical contradiction

When faced with hypothetical contradiction, all but one patients responded on several occasions that if such an occurrence did take place, they would either lower their belief conviction or reject their belief altogether. Again as in accommodation, there was no significant difference between the two groups but there was clear indication that the risperidone group responded faster than the other neuroleptic group (see Figure 3). Three patients from the former group were able to reject their belief by the 4th week while only two patients in the latter group were able to reject their beliefs by the 6th week. One patient from the latter group could not reject his belief throughout the study period.

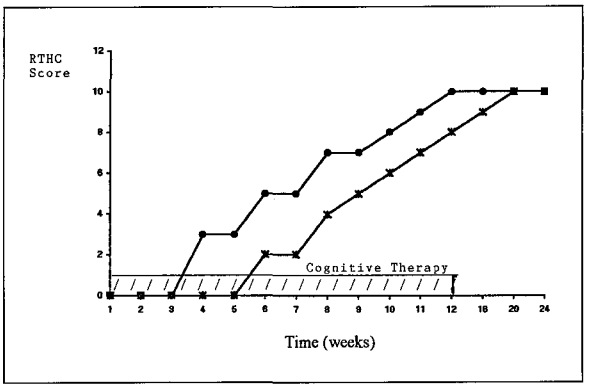

Fig 3: Mean patients RTHC (Reaction to hypothetical contradiction) scores while receiving risperidone (—●—) and other neuroleptics (—×—) during period of cognitive therapy and follow-up.

Hamilton depression /Anxiety scales

Figures 4 and 5 show clearly the decline in both depression and anxiety scores for both groups of patients as the belief conviction score declines. Again there is no significant difference between the two groups but there is a trend towards better response in the risperidone group.

Symptom checklist

Results from the symptom checklist revealed that both groups of patients did not report any new symptom during the study. The symptom checklist proved sensitive to the changes in belief conviction brought about by the intervention for both groups of patients.

Validation of the effect

The effect of the intervention was externally validated by an independent psychiatrist with interviews being conducted after the final follow-up. All patients reported that although their beliefs were not completely

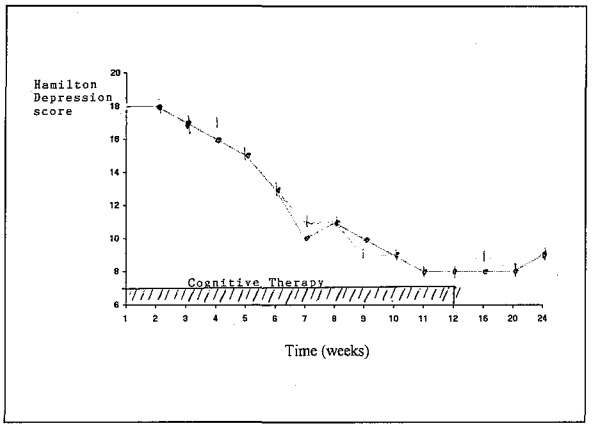

Fig. 4: Mean patients Hamilton Depression score while receiving risperidone (—●—) and other neuroleptics (—+—) during period of cognitive therapy and follow-up.

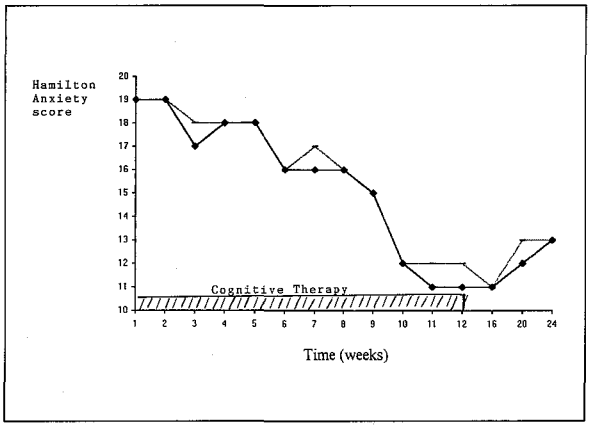

Fig. 5: Mean patients Hamilton Anxiety score while receiving risperidone (—◆—) and other neuroleptics (——) during period of cognitive therapy and follow-up.

extinguished, they were able to understand that there were different ways of thinking about their ideas and there were other plausible explanations other than the delusion. The clinician concluded that the intervention had given the patients insight and coping skills that continued to be of benefit. The most unresponsive patient from the other neuroleptic group also reported that he too could understand the different ways of looking at his beliefs and even though his overall belief convictions has dropped by only 30 %, he could maintain the reduction by frequent reality testing to reconvince himself of the wrong beliefs. The clinician also concluded that even this patient has learned coping skills and gained sufficient insight to his beliefs and that the intervention was definitely beneficial.

Discussion

As with other research that have tried to modify delusional thinking in people with schizophrenia[7,17,25,26], our study indicates that very obvious reductions in delusional beliefs can be achieved in a relatively small number of sessions. The key is to analyse the beliefs correctly at baseline and decide effectively which belief to challenge first. This will make subsequent challenging of other beliefs easier. To analyse these beliefs effectively, it is advisable if a conceptualization of the beliefs based on the cognitive model be constructed first along the line described by Azhar and Varma[20].

Clearly these findings do not support the view that delusions are the result of motivational factors and not amenable to the kind of verbal challenge used in this present study, and consistent with the findings of Milton *et al*[26], there was a correlation between decline in conviction of the delusion and the reduction in overall psychiatric disturbance as in this study by the HDS and HAS. The result of the symptom checklist too offer no evidence of "symptom replacement" following the weakening of the delusional belief.

The verbal challenge produced a strong reduction in conviction score in both patients and subsequently reality testing further reduced the belief conviction. This same effect has been shown recently by Chadwick and Lowe[27] in their experiments.

In Hole's *et. al.* study[22], both the patients who experienced a reduction in belief conviction subsequently came to view their beliefs less as absolute truth and more as hypotheses that they could "reality test". The same happens in our study. Both groups of

patients appeared to engage in reality testing after intervention with verbal challenge and were more eager to further engage in reality testing to test out their "hypotheses" which were originally construed as "beliefs". This accommodation test also seems to work best after intervention and not before i.e. at the baseline sessions. In Brett-Jones study[16], the results on the accommodation measure suggest that such patients are not actively engaged in an ongoing process of reality testing their beliefs.

The RTHC measure revealed that when actually confronted with an instance of hypothetical contradiction, on some occasions, both groups of patients said it would lead them to lessen their belief conviction and in most cases, would reject the belief entirely. This would seem to suggest that although they have the potential to accommodate contradiction, this was not evident in their everyday lives as shown by their performance on the accommodation test. Brett-Jones *et al*[16] reported that those subjects who ultimately entirely rejected their delusional beliefs dealt with hypothetical contradiction in a more rational way than those who did not, and this lead them to speculate that RTHC might be of some value in predicting the success of attempts at belief modification. This study seems to support this idea.

Harrow, Rattenbury and Stoll[28] discussed the issue of "private events". They argue that in modification studies it is possible that demand characteristics will bring about changes in a subjects overt verbal behaviour while leaving it unaltered at the covert level, i.e. they might acknowledge that their beliefs are implausible to others without doubting that they are true. To address this problem, in our study, the independent assessments by the psychiatrist were essential in recognizing that the reduction in the degree of belief conviction in both patients were, indeed, true.

The approach of our intervention is conceptually consistent with the notion of a continuum of functioning by Strauss[19] and the views of Maher[11] who states that "the cognitive processes whereby delusions are formed differ in no important respect from those by which non-delusional beliefs are formed". The patients in our study found it beneficial to see their beliefs as having arisen out of their life experiences and that their reactions were understandable. This and the added impact of normalization, emphasized the extent to which the patients were like other people, rather than set apart by a "mental illness".

It is by no means true that our subjects' delusions were categorically removed and remained so after therapy. What happens is the belief were normalized, and the subjects had less adverse emotional reaction to the beliefs and it was shown to be useful for almost all subjects irrespective of drug use.

The most important aspect of the intervention is that the degree of belief conviction were maintained at a low level for both groups even at the third month follow-up and independent assessments indicating that this method can be of benefit to those patients whose delusions did not seem to be controlled effectively with drugs. However our study also shows that there is a trend indicating that those who were on risperidone respond better or faster than those on other neuroleptics do when they undergo cognitive therapy. This could be due to the patients being less drowsy and are therefore much more alert to follow the therapy. It does seem that the patients appear to be more focussed during the therapy when they are on risperidone than when they are on other neuroleptics. It does seem that drugs like risperidone might be the better option for chronic patients who require all their cognitive functions to be at optimum level while living day to day or when they are undergoing psychological treatment. But we must remain cautious because the results only show a trend not a significant difference between the two groups. The major drawback of this study is the small sample size and that the subjects on risperidone were known to the therapist. Most of the measurements however were done by independent psychiatrists and research assistants to reduce bias and increase 'blindness'. More work needs to be carried out. The sample size needs to be increased and the duration of follow-up should be much longer than three months and perhaps other psychological treatment should also be considered. We are looking into these areas. For the moment, risperidone seems to be a very useful adjunct for chronic schizophrenia on psychological management.

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