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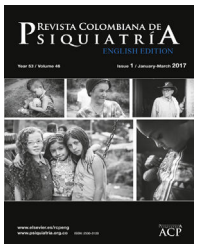

Original article

Evaluation and socio-occupational intervention in bipolar and schizophrenic patients within a multimodal intervention programme – PRISMA☆

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ABSTRACT

Background: Functional improvement in bipolar and schizophrenic patients is one of the main aims of treatment. Nevertheless, there is no evidence about the effect of socio-occupational intervention within a multimodal intervention (MI) programme.

Objective: To describe the socio-occupational profile and to evaluate the functional effect of a MI in bipolar I and schizophrenic patients.

Methods: A prospective, longitudinal, therapeutic-comparative study was performed including 302 subjects (104 schizophrenic and 198 Bipolar Disorder I [BDI] patients), who were randomised into two groups, multimodal (psychiatry, psychology, medicine, occupational therapy, neuropsychology, and family therapy), or traditional intervention (psychiatry and medicine only). Several scales were applied to assess assertiveness, free time management, social abilities, general anxiety, self-care and performance in home, work and community tasks.

Results: After performing the longitudinal analysis, it was shown that the multimodal intervention was more effective than traditional intervention in general anxiety scores ($p = 0.026$) and development in home tasks ($p = 0.03$) in schizophrenic patients. No statistical differences were found in bipolar patients. The other variables showed improvement, however, their effect was similar in both intervention groups.

Conclusions: Our study identified functional improvement in home tasks in schizophrenic patients after receiving multimodal intervention. Other variables also showed improvement for both interventions groups. Future studies, applying longer rehabilitation programmes and other ecological strategies should be performed to identify the most effective interventions.

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Evaluación e intervención socioocupacional en pacientes con TAB y esquizofrenia, dentro del programa de intervención multimodal PRISMA

Palabras clave:
Terapia ocupacional
Trastorno bipolar
Esquizofrenia
Intervención multimodal
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RESUMEN

Introducción: La mejoría en la funcionalidad de los pacientes con trastorno afectivo bipolar y esquizofrenia es una de las principales metas en el tratamiento. Sin embargo, no hay evidencia del efecto de la intervención socioocupacional dentro de una intervención multimodal (IM).

Objetivo: Describir el perfil socioocupacional y evaluar el efecto de un programa de IM en sujetos con trastorno afectivo bipolar tipo I y esquizofrenia.

Métodos: Se realizó un estudio longitudinal, prospectivo y terapéutico-comparativo con 302 pacientes (104 con esquizofrenia y 198 con trastorno afectivo bipolar), asignados aleatoriamente a un grupo de IM (psiquiatría, psicología, medicina, terapia ocupacional, neuropsicología y terapia de familia) o intervención tradicional (IT) (sólo medicina y psiquiatría). Se aplicaron instrumentos que midieron: asertividad, manejo del tiempo libre, habilidades sociales, ansiedad general, autocuidado y desempeño en tareas del hogar, trabajo y comunidad.

Resultados: Se identificó que la IM fue más efectiva que la IT en las puntuaciones de ansiedad general (p = 0,026) y participación en las tareas del hogar (p = 0,03) para los pacientes con esquizofrenia. En los pacientes con trastorno afectivo bipolar no se encontraron diferencias estadísticamente significativas. En las otras variables hubo mejoría durante el seguimiento, pero el efecto se observó en ambos grupos de tratamiento.

Conclusiones: El presente estudio identificó mejoría en la funcionalidad dentro del hogar en los pacientes con esquizofrenia después de recibir una IM; también se encontró mejora en otras variables, independientemente del tipo de tratamiento. Se deberá realizar futuros estudios con programas de mayor duración y otras estrategias más ecológicas con el fin de aclarar las dudas sobre la efectividad de las intervenciones.

Introduction

Bipolar affective disorder (BAD) and schizophrenia have traditionally been classified as major psychiatric disorders; at the same time, they are among the most disabling conditions and those that generate the largest number of consultations.[1] Both disorders affect around 1% of the world population and come to have a serious impact on the quality of life of patients and their support networks.[1,2]

Study of persistent subthreshold symptoms in inter-critical periods, associated with impairment of patient functionality, indicated the need for new therapeutic approaches that would have an impact on these complex aspects of the disease[3,4]; that has led in recent decades to a trend towards multimodal interventions (MI) — multiple interventions by an interdisciplinary team to support pharmacological measures as the cornerstone.[4] This approach is based on intervention in the different human dimensions — biological, psychological, family and social — and the objective is to work in a coordinated manner and potentiate the impact in each of these areas.[5]

It is known that psychoeducation helps to reduce relapse and improve adherence to treatments in numerous psychiatric disorders, and that it has a positive impact on patients' quality of life.[6] In the words of the World Federation of Occupational Therapists (WFOT), occupational therapy is a "profession concerned with promoting health and well-being through occupation. Occupational therapists achieve this outcome by working with people and communities to enhance their ability to engage in the occupations they want to, need to, or are expected to do, or by modifying the occupation or the environment to better support their occupational engagement".[7] The current vision of mental health includes the intervention of numerous related professions, including occupational therapy. This has had an economic impact on society, made evident by the reintegration of patients, reduction in hospital stays, increase in adherence to treatments and better prognoses.[8,9]

Consequently, within the framework of the PRISMA project, the GIPSI (*Grupo de Investigación en Psiquiatría* [Psychiatry Research Group]) at the Universidad de Antioquia designed an MI and a traditional intervention (TI) to be offered to patients with type I BD (bipolar I disorder, BID) and schizophrenia, in order to compare the primary outcomes of the two interventions. This article shows the effects of the MI compared to those of the TI with respect to variables assessed from an occupational therapy point of view.

Material and methods

Participants

The study included 302 patients, 104 of whom were diagnosed with schizophrenia and 198 with BID; based on this group, we conducted a prospective, longitudinal, randomised,

comparative therapeutic study. Participants were selected from the Mood and Psychosis Disorders Group clinic population of Hospital San Vicente Fundación, or from other institutions in the city, and they had to have one of the two diagnoses mentioned above. The patients were randomly assigned to two intervention groups as follows: the MI group consisted of 50 patients diagnosed with schizophrenia and 100 patients diagnosed with BID; the TI group had 54 patients diagnosed with schizophrenia and 98 with BID.

The study was carried out within the framework of the "Mental Health Programme with emphasis on reducing the burden, the damage and the social costs of mental health-PRISMA", developed by the GIPSI research group at Universidad de Antioquia, in collaboration with other national and international institutions. The recruitment and subsequent initial assessment of the patients were carried out over two years starting in 2012, with the final assessment in February 2015.

The exclusion criteria included electroconvulsive therapy in the previous six months, severe traumatic brain injury at some point in life, neurological or psychiatric comorbidities, intellectual disability, classic autism and personality disorder. In addition, patients had to meet five inclusion criteria to participate in the study: (a) have been diagnosed according to the Diagnostic Interview for Genetic Studies (DIGS) 10 with schizophrenia or BID, previously validated in Colombia; (b) be aged from 18 to 60; (c) have a level of education of at least five years, but not more than 16 years; (d) sign the informed consent form after the investigator had given the pertinent explanation and resolved any doubts, and have thus agreed to participate in the study; and (e) be in a good state of health, to ensure that the individual would be able to perform the battery of tests applied without any hitches.

Once one of the therapy team professionals had explained the study objectives and procedures, the informed consent form was signed by each participant. This study was approved by the bioethics committees of the respective institutions.

Instruments

The respective batteries of tests were applied for each component before and after the intervention to allow comparison between the two time points according to intervention group.

Clinical characteristics

Patients were diagnosed with BID and schizophrenia using the DIGS, translated into Spanish and validated for Colombia,[10] with which we can record the exact information to confirm the main diagnosis and rule out psychiatric comorbidities based on the diagnostic criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR).[11] A psychiatrist with research experience applied the instrument.

In addition, depending on the disorder, different scales were applied to determine other clinical variables. Patients diagnosed with BID were assessed with the 17-item Hamilton Depression Rating Scale (HDRS)[12,13] and the Young Mania Rating Scale (YMRS),[14,15] both validated in Spanish. For the subjects diagnosed with schizophrenia, the scale for the assessment of negative symptoms (SANS) and the scale for the assessment of positive symptoms (SAPS)[16] were applied. The Global Assessment of Functioning (GAF)[17] scale was applied to all subjects in the last month and at the worst point of the last episode.

Occupational therapy

The instruments used in the occupational therapy component were chosen according to the category being studied: assertiveness, performance in daily routines and social skills. They included the following:

Occupational history. The occupational history is a document that records a patient's general data, his/her academic history (including level of education, school repetition, dropout and reason for that), work history (work done, level of qualification, time in post and reason for leaving), leisure activities and personal independence; this was assessed by developing a form on which information was obtained about performance in self-care, hygiene activities, dressing, diet and everyday activities instrumental in the home, and communication, identifying habits and routines, as well as use of the community and the ability to function in his/her immediate environment.[9]

Questionnaire on performance of routine tasks. This questionnaire, developed by Kielhofner,[18] is based on the model of human occupation by which the occupational patterns of the patient (their strengths and points to improve) can be identified with the occupational history. This model considers five relevant areas of assessment: organisation of daily routines, verifying whether or not there is a balance between work, play and activities of daily living; roles or parts, identifying those still played in the patient's life (among others, student, child, parent, worker), and the balance and expectations in relation to these; interests and values, identifying them and observing the depth with which they are developed ordinarily; perception and assumption of skills, according to the patient's perception of their abilities and limitations; and the area of environmental influence, which includes all of the phenomena that surround the patient and how they influence the patient's development and existence, taking into account human factors (individuals and groups) and non-human factors (physical conditions, things and ideas). In this scale, culture, religion, race and family will influence how social interactions develop.

Large assertiveness inventory. Adapted to Spanish by Carrobles, Costa and del Ser (1975), this instrument consists of 40 items, which pose different social situations in which it is expected that an assertiveness response would be generated in the individual. It includes two scales: one that evaluates the subjective discomfort and anxiety that each situation may produce; and another that evaluates how the subject is going to respond to it. This helps us identify what types of potential social interaction involve the greatest difficulty for the patient and how they would respond to said situations.

Semi-structured interview aimed at social skills. This tool helps to identify the specific social situations that are problematic for the patient, selecting the factors that may have caused their social behaviour to become lacking in skill. In also enables us to gain a better understanding of the patient's per-

ception of their current situation, including their expectations and their desire to modify their attitudes. At the same time, as it is an interview that facilitates observation of the patient when interacting, aspects of verbal and non-verbal language can be observed, such as fluency, tone, facial expression, eye contact and personal appearance.[19]

Multidimensional scale of social expression: motor and cognitive parts (Escala Multidimensional de Expresión Social, EMES-M, EMES-C). These two scales provide a general assessment of the patient's social interaction skills and also identify the specific social skill for each of the situations discussed in the different scale items. The EMES-M is exclusively aimed at behaviour considered socially appropriate and includes 64 items grouped into 12 different social situations. The EMES-C consists of 44 items and assesses the patient's negative thinking with respect to different social situations.[19]

Social Avoidance and Distress Scale (SADS). This instrument has 28 items and assesses the presence of active behaviour to avoid social interaction or the desire to avoid such interaction, also investigating the subjective discomfort that different social interaction situations can provoke in the patient.[20]

Occupational therapy assessment procedure

In addition to the interview conducted by psychiatry and the rest of the multidisciplinary team, the general functionality of all patients in the social, family and work environments, as well as their occupational capacity, was assessed at the beginning and at the end of the intervention. This initial assessment was used to design the intervention plan for each patient adapting it to their needs.

The occupational assessment was designed based on the model of human occupation explained above. Analysing the results obtained in the different areas assessed, the occupational therapist determined the specific components involved in the disruption in occupational performance for each patient, including: (a) components of functional performance, and (b) areas of occupational performance.

Intervention

Multimodal intervention compared to traditional intervention

The MI was implemented by healthcare professionals from different areas, such as psychiatry, psychology, neuropsychology and neuropsychological rehabilitation, family therapy, occupational therapy and general medicine. Each component applied its battery of tests to assess and determine the patient's condition, and thus establish a therapeutic strategy based on individual needs. A set number of outpatient consultations was established for each subject, which varied from 12 to 18 sessions. For the purposes of this article, emphasis is placed on the occupational therapy component. In addition, each participant, along with their family, received psychoeducation in 10 weekly sessions.

The TI was implemented by general medicine and psychiatry, which provided 1–2 visits in the period established for the treatment of mental illness, physical illnesses, detection of medical comorbidities and promotion of healthy lifestyles. The traditional care model was intended to resemble the health model currently offered by the Colombian health service.

Occupational therapy intervention

As with the other components of the intervention, the occupational therapy intervention was based on the specific needs identified in the initial assessment of each patient. A strategic intervention plan was established according to the classification proposed by the *Grupo Latinoamericano de Rehabilitación Profesional* [Latin American Professional Rehabilitation Group][21]: patients with adequate functioning, who were autonomous in their daily activities and carried out some sort of work, academic or role-playing activity, received at least 2 intervention sessions; patients who required socio-occupational guidance, who were able to become involved in academic and work activities but required support and guidance, received 4–8 sessions; patients requiring guidance with the adequate use of free time, who required assistance in the development of personal and social skills for an adequate use of community resources, and patients requiring family placement, who required guidance to improve their participation in the tasks of the home, aimed at providing support to the caregiver to promote family integration, received at least 4 interventions; and patients who needed to promote personal independence, who had a predominance of negative symptoms, received a maximum of 6 intervention sessions aimed at family integration and autonomy in personal care.

Each intervention by occupational therapy had to be aimed at a goal, have meaning at some level for the patient, involve the participation of the patient and his/her family, be an instrument to prevent dysfunction and/or maintain or improve function and quality of life of the patient, reflect the participation of the patient in vital tasks, relate to the interests of the patient and be adaptable and adjustable. Through this, the purpose was to produce a calculated response from the patient to the activity being applied according to the objectives of the treatment. Depending on those objectives, the activity may provide the means to increase strength, encourage social interaction, decrease anxiety or stimulate cognitive function. These activities can be adjusted, sequenced and monitored, and be facilitating, protective or adaptive.

According to these objectives, the professional offered occupational guidance taking the skills of the patient and their social support into account, which then allowed the use of the tools in the environment that would enable their reintegration and development. In addition, patient motivation strategies were generated, according to their tastes, to help them properly perform rudimentary activities.

In terms of social skills, group interventions were carried out, with a maximum of eight patients and six to 12 sessions. This process was carried out in phases:

Phase I: *acquisition of facilitators*. Phase I involved breathing and relaxation training, working on verbal, nonverbal and paralinguistic components of social skills, and knowledge acquisition and distinction between assertive, unassertive and aggressive behaviour in each patient.

Phase II: *cognitive restructuring*. The aim in phase II was to identify irrational thoughts and ideas and negative self-verbalisations, and to refute irrational beliefs.

Phase III: *social skills training*. In phase III, instructions were given to the patients, modelling was done and a behavioural test carried out to finally give feedback and reinforcement of the positive findings and areas to be improved, and they were given tasks to do at home.

Statistical analysis

For the description of the quantitative socio-demographic and clinical variables, measures of central tendency (arithmetic mean), position (median) and dispersion (standard deviation and interquartile range) were used. In the qualitative variables report, absolute frequencies and proportions were used. In the qualitative variables, normality in the distribution was evaluated using the Shapiro–Wilk test, and independence (with respect to groups and subgroups) was measured by the χ^2 test and the log-likelihood ratio statistic.

The variables on the absolute observed frequencies of both BD and schizophrenia were described by means of contingency tables (qualitative data), in which column profiles were detailed for the analysis of independent samples within each time and row profiles for dependent samples between each time and each condition.

The analysis was carried out with the data in two stages; for the dependent data or related samples (initial and final assessments) the McNemar test (2×2 data) and McNemar-Bowker test (for $P \times P$ data) were used to measure the differences between the two time points (to test hypotheses about equality of proportions) in each variable studied (dependent samples). For the variables in which the McNemar statistic was not applicable (e.g. $b + c = 0$), the marginal homogeneity test for dependent samples was used. For the independent samples (each of the time points, initial and final) Pearson's χ^2 test was used. The statistical correction for continuity was also used when that did not meet the minimum expected size requirements per level (maximum, 25% <5).

Results

During the course of the project there were a total of 43 losses for different reasons, such as being lost-to-follow-up or voluntary withdrawal from the research study. No harm or unintended effects occurred in any of the intervention groups.

Demographic characteristics of the patients with BD and schizophrenia

Statistically significant differences were found in the socio-demographic variables: 83.5% of the patients with schizophrenia were male, and 67.8% of the patients with BD were female, with average ages of 37 and 43, respectively. Of the patients with schizophrenia, 96% were single, 50% unemployed and only 26% reported having higher education (technical, technological or for a profession). In the group of patients with BD, 59% were single, 20% unemployed and 40% had completed higher education.

Differences in the clinical variables of patients with BD and schizophrenia

Statistically significant differences were found between the two disorders in the number of hospitalisations ($p = 0.026$), the age of onset of substance/psychoactive drug abuse ($p = 0.004$) and in the score on the GAF scale in the past month ($p = 0.001$). The group of patients with schizophrenia had an average of two hospitalisations during their lives, 15% had a history of alcohol abuse and 31% had a history of psychoactive substance abuse; mean age at onset of alcohol consumption was 18, and mean age at the onset of psychoactive substance abuse was 16. In addition, the average SANS and SAPS scores were 9 and 45 respectively, with a GAF score in the previous month of 55.

In the BD subject group, the mean number of hospitalisations was 2.5, with an average of two episodes of mania/hypomania and a mean score on the GAF scale of 80 in the previous month; 29% had a history of suicide attempts and 26% a history of alcohol/substance/drug abuse.

There were no statistically significant differences between the two groups in the following variables: alcohol abuse ($p = 0.602$); psychoactive substance abuse ($p = 0.455$); history of suicide attempts ($p = 0.204$); and age of onset of alcohol abuse ($p = 0.86$).

Demographic and clinical characteristics of the subgroups of patients with bipolar disorder and schizophrenia according to type of intervention

Statistically significant differences were found in the level of education of the BD group who received an MI, where 50% of the patients had some level of higher education, compared to 29% of the BD TI group ($p = 0.044$).

No statistically significant differences were found between the subgroups of patients with BD in the Hamilton and Young scale scores or between the subgroups of patients with schizophrenia in the SAPS and SANS scores. Moreover, there were no statistically significant differences in the GAF scale in the past month between the MI and TI subgroups for patients with BD or schizophrenia.

Differences in the socio-occupational performance of patients with BD and schizophrenia after the multimodal PRISMA intervention programme

Assertiveness inventory

No differences were found between the groups assigned to either intervention in the initial assessment or the final assessment in the assertiveness score. There was also no significant difference between initial or final assessments of the patients in the schizophrenia group ($p = 0.795$) or the BD group ($p = 0.858$).

In terms of the variation in categories over time, in the group of patients with schizophrenia, those initially in the "unassertive" category mostly remained unchanged (54.8%) but there was also a significant change towards the category "anxious performer" (22.6%); patients initially in the category "assertive" showed similar behaviour, the majority remaining unchanged (54.5%) and 22.7% moved to the category "anxious performer"; those who were initially in the category

"anxious performer" had significant changes of category to "unassertive" (41.7%) and "assertive" (33.3%); and among those initially in the category "doesn't care", there was a significant change to "unassertive" (50%).

In the group of patients with BD, the majority of those in the "unassertive" category remained there (47%), with a significant change to "anxious performer" (30.8%); the majority of those initially in "assertive" remained in the same category (65.9%). Among those initially in "anxious performer", there was a significant change to "unassertive" (41.7%) and "assertive" (33.3%); and among those initially in the category "doesn't care", there was a significant change to "unassertive" (50%).

No significant changes were found between the two assessment times for each of the interventions. The stability in the classifications, both in their variation in time and in the comparison between each intervention at both assessment points, indicates that neither of the two proposed interventions was relevant for the Assertiveness Inventory variable.

Self-care

No statistically significant differences were found in the self-care scores between the subgroups of patients with BD and among the patients with schizophrenia, either in the initial or the final assessment. It is striking that in none of the cases were there patients classified as "dependent", and, in the case of BD, there was only one patient classified as "with support" at the beginning who, in the final assessment, was classified as "independent". There was also no significant difference showing important category changes between the two assessment time points among the patients in the schizophrenia group ($p = 0.5$) or in the BD group ($p = 1$).

The results indicate that patients with BD may achieve better self-care goals than patients with schizophrenia, but the little variation in the data points to the fact that both TI and MI have little impact on the classification of patients' self-care.

Participation in household tasks

At the initial assessment, no differences were found between the groups of patients with schizophrenia in the variable participation in household tasks ($p = 0.149$), but there was a significant difference in the final assessment ($p = 0.03$). After performing the longitudinal analysis between the two assessment times, this difference was significant in the schizophrenia group that received the MI. In the BD group, there were no significant variations between the initial ($p = 0.904$) and final ($p = 0.951$) assessments.

The patients in the schizophrenia group who were initially classified as "dependent", assigned to MI (14.3%), were all subsequently classified in other categories for the final assessment (0%); this pattern was not repeated in the TI group.

It is worth noting that in this group, after both treatments, the majority of patients classified as "independent" remained in this category, although 18.5% migrated to the category "with support"; most of the patients classified as "dependent" were placed afterwards in the categories "independent" (42.9%) and "with support" (42.9%).

The majority of the patients in the BD group who started the classification as "independent" remained in this category (95.2%); those classified as "with support" showed significant migration towards the "independent" category (59%), and many of those who started in the category "dependent" migrated to the categories "independent" (60%) and "with support" (40%). We should point out that in this group there were no patients classified as "dependent" in the final assessment.

This pattern indicates a favourable outcome for patients with schizophrenia who received the MI; however, positive results were also found in the TI.

Use in the community

No differences were found between the two interventions in the initial assessment of the patients with schizophrenia ($p = 0.327$) and BD ($p = 0.746$); and the same was the case in the final assessment. No significant difference was found showing important category changes between the two assessment time points among the patients in the schizophrenia group ($p = 0.38$) or in the BD group ($p = 0.227$).

Use of free time

No differences were found between patient subgroups (MI and TI) at either of the two assessment time points in the use of free time. There were significant changes in category between the two assessment time points among the patients in the schizophrenia group ($p < 0.001$) and in the BD group ($p < 0.001$). The majority of patients with schizophrenia who were initially classified as "adequate" remained unchanged (81%), with the others (19%) changing to "limited"; those who started in the "limited" category showed a significant change towards "adequate" (45.9%).

Most patients with BD classified as "adequate" remained in this category (92.9%), and most of those who started in "limited" changed to "adequate" (45.9%). It is worth noting that in both cases patients improved in terms of the free-time classification parameter; since there are no differences between the two treatments in the results for each assessment period, it can be said that both treatments are effective for this variable.

Social skills

Social skills scores were similar among patients assigned to MI and TI both at the beginning and at the end of the study. After performing the longitudinal analysis, a significant difference was found that shows category changes between the two assessment times among patients in the schizophrenia group ($p = 0.025$) and the BD group ($p < 0.001$).

Most of the patients in the schizophrenia group initially classified in the category "very inappropriate" remained there (75.4%), while 24.6% were reclassified to the category "normal"; 81.8% of those initially in the "normal" category remained in that category. Among the patients with BD classified in the category "very inappropriate", there were changes to the category "normal" (63.6%); those classified initially in the category "normal" remained in the same category (80.4%); no patients were classified in the category "very appropriate". When compared, there were no differences between the two types of intervention in the categories at the two assessment times.

Patients in both groups improved in terms of the free-time classification parameter, and did so in both types of therapy.

That would indicate that both treatments may be effective in improving this variable.

General anxiety

A variation between the two interventions was found in the schizophrenia group, which was not significant in the initial assessment ($p = 0.462$), but in the final assessment was ($p = 0.026$); no statistically significant differences were found in the BD group.

A significant difference was identified with category changes between the two assessment times for the patients in the schizophrenia group ($p = 0.014$) and the BD group ($p = 0.04$). Patients in the schizophrenia group who were initially assigned to the variable "very inappropriate" and to MI (45.8%) showed a decrease in the final assessment (33.3%); meanwhile, the patients in this intervention group assigned to the variable "normal" in the initial assessment (54.3%) showed an increase in the final assessment (57.1%).

In the BD group, the patients initially treated with MI and assigned to the variable "very inappropriate" in the initial assessment (48.6%), were reduced in the final assessment (33.3%), in comparison with those who were treated with TI both in the initial assessment (51.4%) and in the final assessment (66.7%). Patients assigned to the variable "normal" initially showed similar distribution in MI (50.8%) and TI (49.2%); for the final assessment there were no significant changes in either MI (51%) or TI (49%).

Patients in the schizophrenia group showed significant differences between the two treatments; the results were more favourable for those who received the MI.

Physical attractiveness

No significant difference was found between the two assessment times for the patients in the schizophrenia group ($p = 0.366$) or the BD group ($p = 0.549$) in the physical attractiveness variable. Although the patients in the BD group showed a significant difference in their initial assessment, that difference was not maintained at the final assessment. The results indicate that the two interventions may be similar in terms of the physical attractiveness variable.

Discussion

We compared the scores on the occupational therapy scales at baseline for the patients assigned to MI and those who received TI, and identified that the patient groups were very similar at the beginning of the study, thanks to a good randomisation process. No significant differences were found in the scores for assertiveness, self-care, use in the community, use of free time, participation in household tasks, social skills or general anxiety in the initial assessment. Statistically significant differences were found between the patients with BD in the MI group and the TI group in the physical attractiveness variable at the beginning of the study ($p = 0.043$). The scores of the patients with schizophrenia for the physical attractiveness variable were very similar in both groups.

At the final stage, compared to the TI, the MI group was found to have statistically significant improvements in the scores for general anxiety ($p = 0.026$) and participation in household tasks ($p = 0.03$), primarily in patients with schizophrenia. When the initial and final scores were compared, changes in the use of free time and social skills were identified both in the groups that received the MI and in those exposed to the TI. In other words, both interventions were found to be effective in these variables. This effect was also found in the variable "use of free time" in the patients with BD.

The improvement in participation in household tasks in patients with schizophrenia seemed to be independent of positive and negative symptoms. Comparing baseline and final scores, significant differences were found in negative symptoms on the SANS in both interventions; positive symptom scores on the SAPS remained unchanged. In other words, the MI had no effect on symptom scores, but differences were found in functionality within the home. The above finding shows that functional goals are not always associated with a reduction in symptoms, and that strategies involving interventions other than drug therapy need to be offered to help improve the quality of life of the patients and their families.

In our study, a significant deterioration in the socio-occupational profile of patients with BD and schizophrenia was identified, in line with that observed in clinical practice and studies on functionality. A meta-analysis published in 2014 identified that a family history of psychosis is associated with poor functional and occupational performance.[22] Any therapeutic strategy carried out in psychotic disorders should therefore include functional improvement as a final goal. Deterioration in functionality has not only been described in patients with a history of psychosis; according to reports, 30–60% of patients with BD do not achieve full functional recovery in the social and work domains.[23]

There may be a number of reasons for the fact that no significant changes were identified in the occupational performance of the patients exposed to the MI: impaired functionality of patients with schizophrenia and BD is generally associated with the severity of the disease, cognitive or negative symptoms and the presence of residual symptoms.[2,24] Patients' dysfunctional behavioural patterns have been reinforced for a long time, and it is possible that an occupational intervention involving only a few sessions will not achieve such a strong effect in this type of population. In addition, all interventions took place in the clinic and many of the sessions were individual; because of the design of the programme, it was not possible to carry out interventions in groups, in the community or in workshops. The individual modality has its limitations, as it does not facilitate the application of "live" strategies and nor does it facilitate direct observation of the patient's abilities. Another factor that might have interfered with the final result of the intervention was the duration of the programme; some authors have proposed that, in a population with marked functional impairment, up to 30 sessions may be necessary to achieve clinically observable changes. In the PRISMA programme, patients were able to have eight to 12 individual sessions, in which they also received other interventions such as psychiatry and psychology. The intensity of the intervention may therefore have been less than what the patient needed.

In previous studies in patients with schizophrenia, there has been an improvement in assertiveness, levels of social anxiety and satisfaction with interpersonal communication after receiving targeted training. These results were reported after the intervention and after 3 months of follow-up. It is possible that our study did not show significant changes in assertiveness scores because, although training in social skills was included within the MI programme, it was shorter in duration and less intense than that observed in other studies.[25]

Taking into account the negative symptoms of the patient with schizophrenia and the limitations observed in adherence to treatment and attendance at the sessions, we propose different models of intervention other than the traditional models which will need to be assessed in subsequent studies, such as Functional Remediation[26] for BD and assertive community treatment[27] for schizophrenia. Strategies such as those set out in assertive community treatment might have a bigger impact on functionality; this type of approach aims to offer assistance to people with severe mental illness and focus their field of action in a social environment close to the patient and based mainly on community intervention.[27] Future studies with longer intervention programmes and more ecological rehabilitation strategies may have a greater impact on patients' general functionality.

Conclusions

The groups randomised at the beginning of the study were very similar in terms of the variables assessed in occupational therapy. After performing the longitudinal analysis, we identified that the PRISMA MI was more effective than the TI in patients with schizophrenia, specifically in terms of general anxiety ($p = 0.026$) and participation in household tasks ($p = 0.03$). These differences were not observed in other variables such as the use of free time and assertiveness. This study did not show the MI to have a statistically significant effect on patients with BD. From a qualitative point of view, the healthcare professionals in the PRISMA programme observed significant changes in both groups of patients and an improvement in general functionality; the programme had a high degree of acceptance among the patients and there was good accompaniment by the families. These descriptive findings show the need to monitor this population in order to assess the effect of the intervention in the medium and long terms. We suggest that subsequent studies in this field should also include qualitative methodology and that the occupational intervention programme should have more community strategies which may be more effective than interventions carried out behind closed doors.

Ethical disclosures

Protection of human and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work centre on the publication of patient data.

Right to privacy and informed consent. The authors have obtained the written informed consent of the patients or subjects mentioned in the article. The corresponding author is in possession of this document.

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Conflicts of interest

The authors have no conflicts of interest to declare.

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