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Review Article

Effectiveness of interventions aimed at social participation in people with schizophrenia: systematic review

Efetividade de intervenções voltadas à participação social em pessoas com esquizofrenia: revisão sistemática

Efectividad en intervenciones destinadas a la participación social en personas con esquizofrenia: revisión sistemática

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Abstract

Introduction: From Occupational Therapy, social participation is considered one of the areas of vital importance in the lives of people with schizophrenia. Therefore, when there is a limitation in participation in this occupational area, it is necessary to generate intervention strategies that favor and enable access to them. **Objectives:** Know the effectiveness of different interventions in the occupational area "social participation" in users with schizophrenia. **Method:** A bibliographic search was carried out in three databases in the health and social field: Pubmed, Scopus and Web of Science. The inclusion criteria for the selection of articles were: People between 18 and 65 years old with a diagnosis of schizophrenia, published in the last 10 years in English, Spanish and Portuguese, excluding opinion articles and articles with less than 10 participants in the intervention. A total of 13 studies were selected. All papers were evaluated according to a cheklist. **Results:** The most effective intervention has been the ACT, with results of; improvement in symptomatic remission of 43.98 pints, comparing with control group; in terms of hospital readmissions, 19.05%; Regarding social functionality, it has had an improvement of 11.36 points; Finally, regarding the quality of life, there has been an improvement of 1.40 points. **Conclusions:** Social participation is essential in the psychosocial rehabilitation process of a user with schizophrenia. Assertive Community Treatment (ACT) has shown significantly better results compared to Community-Based Rehabilitation (CBR). We must take the results obtained with caution due to the study's limitations, where the little scientific evidence available on this subject stands out.

Keywords: Schizophrenia, Occupational Therapy, Community Mental Health Services, Social Participation.

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Resumo

Introdução: A participação social é considerada uma das áreas ocupacionais de vital importância na vida das pessoas com esquizofrenia. Por isso, quando há uma limitação nessa área ocupacional, é necessário gerar estratégias de intervenção que favoreçam e possibilitem o acesso a elas. **Objetivos:** Conhecer a eficácia de diferentes intervenções de participação social em usuários com esquizofrenia. **Método:** Foi realizada uma pesquisa bibliográfica em três bases de dados no âmbito das ciências sociais e de saúde: Pubmed, Scopus e Web of Science. Os critérios de inclusão foram: adultos com diagnóstico de esquizofrenia, estudos experimentais publicados nos últimos 10 anos em inglês, espanhol e português, excluindo artigos de opinião e aqueles realizados com menos de 10 participantes. Um total de 13 estudos foi selecionado. Todos os trabalhos foram avaliados de acordo com um checklist. **Resultados:** A intervenção mais eficaz tem sido o *Assertive Community Treatment* (ACT), com resultados de melhora na remissão sintomática de 43,98 pontos em comparação quanto ao grupo controle; enquanto as reinternações hospitalares, 19,05%; quanto à funcionalidade social, teve uma melhora de 11,36 pontos. Por fim, em relação à qualidade de vida, houve uma melhora de 1,40 pontos. **Conclusões:** A participação social é essencial no processo de reabilitação psicossocial de um usuário com esquizofrenia. O ACT mostrou resultados significativamente melhores em comparação com o *Community-Based Rehabilitation* (CBR). Devemos tomar os resultados obtidos com cautela devido às limitações deste estudo, onde se destaca a pouca evidência científica disponível sobre o assunto.

Palavras-chave: Esquizofrenia, Terapia Ocupacional, Serviços Comunitários de Saúde Mental, Participação Social.

Resumen

Introducción: La participación social es considerada una de las áreas ocupacionales de vital importancia en las vidas de las personas con esquizofrenia. Por ello, cuando existe una limitación en esta área ocupacional es necesario generar estrategias de intervención que favorezcan y posibiliten el acceso a las mismas. **Objetivos:** Conocer la efectividad de diferentes intervenciones en la participación social en usuarios con esquizofrenia. **Método:** Se realizó una búsqueda bibliográfica en tres bases de datos de ámbito sanitario y social: Pubmed, Scopus y Web of Science Los criterios de inclusión fueron: adultos diagnosticados de esquizofrenia, estudios experimentales publicados en los últimos 10 años en inglés, castellano y portugués excluyendo los artículos de opinión y con menos de 10 participantes. Se seleccionaron un total de 13 estudios. Todos los trabajos fueron evaluados de acuerdo a un checklist. **Resultados:** La intervención más efectiva ha sido la Assertive Community Treatment (ACT), con unos resultados de: mejora en la remisión sintomatológica de 43,98 puntos en comparación el grupo control; en cuanto a los reingresos hospitalarios 19,05%; respecto a la funcionalidad social, ha tenido una mejora de 11,36 puntos; por último, respecto a la calidad de vida ha habido una mejora de 1,40 puntos. **Conclusiones:** La participación social es fundamental en el proceso de rehabilitación psicosocial, de un usuario con esquizofrenia. La ACT ha mostrado mejores resultados de forma significativa frente a la Community-Based Rehabilitation (CBR). Debemos tomar con cautela los resultados obtenidos debido a las limitaciones de este estudio, donde resalta la poca evidencia científica disponible sobre esta temática.

Palabras clave: Esquizofrenia, Terapia Ocupacional, Servicios Comunitarios de Salud Mental, Participación Social.

Introduction

Schizophrenia is a serious mental illness that is characterized by symptoms, both thought disorder (hallucinations, delusions and lack of motivation), emotional (flattening effect and interrupted speech) and cognitive symptoms (memory and attention problems) or social (such as dulling, isolation). This disease can occur as an isolated episode, or as a recurrent cycle of remission and relapse, and is associated with impaired psychosocial and occupational functioning (Morris et al., 2018). It is currently estimated that this pathology affects more than 24 million people worldwide according to the WHO, that is, 1 in 300 worldwide (World Health Organization, 2022).

Given the alterations in language, behaviors and emotional distortion, people with schizophrenia suffer an alteration in their ability to respond to the requirements of social life. This alteration is reflected in various aspects of their lives, which prevents them from playing an active role in the community as participatory citizens and developing the roles that society expects (Aubin et al., 2009). This is known as social functioning or social participation.

Although antipsychotic medication can control the symptoms of schizophrenia, it is inadequate to address complex social needs.

In this sense, psychoeducation promotes better social functioning (Canadian Psychiatric Association, 2005; Ministerio de Sanidad y Consumo, 2009; Royal Australian and New Zealand College of Psychiatrists, 2016; Xia et al., 2011). As shown in the existing reviews up to now (Xia et al., 2011), these data should be taken with care for two reasons. First of all, some of these data are unacceptably heterogeneous. Second, 31 of the 44 included studios are Chinese, that is, 70.45% of the included studios.

In the case of most of the countries of the western world, psychoeducation is framed in the so-called "social insertion programs" or "continuity of care programs". However, there are two problems. In the first place, most of these programs are limited to controlling the symptoms and/or pharmacological treatment without fully working on the social insertion of these people. Also, in the case of Spain, each autonomous community has its mental health plan, and not all communities have a "protocol" of social inclusion generalized throughout the territory. For example, Galicia (Consellería de Sanidade, 2007) follows with a mental health plan for 2006 while in the Basque Country (Red de Salud Mental de Guipuzkua, 2022) has a mental health plan for 2020. Both documents are in extinction and updating.

In any case, and despite these limitations, within psychoeducation, the multidisciplinary approach is essential. Within this intervention, there are many professionals who have a place (psychiatrists, nurses specialized in mental health, psychologists or occupational therapists, among others). Occupational therapy plays a fundamental role in the mental health area. Its main objective is the training of these people to participate in activities of daily life through the individual's empowerment or the modification of the environment. The results in the available scientific evidence are positively significant (Gutman, 2021).

Within mental health, occupational therapy works on social participation (World Federation of Occupational Therapists, 2022). Thus, there is scientific evidence that supports the need for therapy to improve social participation in the field of mental health (D'Amico et al., 2018).

Within psychoeducation, there are different techniques that try to improve the promotion of participation in significant activities and occupations (Ministerio de Sanidad y Consumo, 2009). In the social participation, the most relevant are Metacognitive training

(MCT) (Jiang et al., 2015), Assertive Community Treatment (ACT) (Luo et al., 2019) or Community-based rehabilitation (CBR) (World Health Organization, 2021).

The ACT technique (Luo et al., 2019) is focused on assertiveness and behavior modification. It not only tries to modify behaviors aimed at commitment to drug treatment, reduce symptoms and hospital readmissions. It also acts as a transition between the hospital stay and their incorporation into the community through the creation of support groups. That is, the patient learns to show wishes and/or frustrations in a friendly, frank and adequate way. In this way, it acts as a transition between the hospital stay and their incorporation into the community. For this, both group and individual assistance are offered simultaneously:

Group therapy is carried out in small groups (no more than 10 patients per professional team) with similar interests, values and the same type of disorder.

The individual support consists of home visits planned only for crisis situations (with availability 24 hours a day, 7 days a week) aimed at reducing the symptoms associated with that crisis situation.

The CBR intervention focuses on the improvement/adaptation of compromised occupational environments. To do this, the team develops interventions at the group and individual level. We can find two group interventions. On the one hand, it organizes groups with other patients with similar demands and diagnoses and on the other hand with the personal environments of the participants. In both, behavior modification is used as a therapeutic tool managed by either an occupational therapist or a psychologist to modify certain habits, routines and behaviors of the people who comprise the compromised occupational environment.

Individual interventions establish agreed objectives with the patients based on their values, preferences and significant activities to achieve a greater commitment from the patients and make them a participant in their recovery. Thus, they are usually performed in the very place where people carry out their daily lives and the environment that can be potentially problematic, such as work, home, etc. (World Federation of Occupational Therapists, 2021).

Despite the importance that these techniques may have in the incorporation of patients with schizophrenia into society, there is currently no solid scientific evidence to determine the effectiveness or adequacy of each of the techniques.

The objective of this review is to know the effectiveness of different interventions in "social participation" in patients with schizophrenia.

Methodology

A systematic review (SR) was performed. The steps for its elaboration were the following:

Eligibility criteria: the established selection criteria were the following: Patients (adults not hospitalized, with schizophrenia); intervention (ACT and CBR); types of studies (experimental studies published in the last 10 years in English, Spanish and Portuguese). We excluded articles with less than 50 people in the intervention and pilot studies.

Search strategy: to discover the existing literature, we carried out a bibliographic search in December 2021 in the main international databases, both in the biosanitary (Pubmed) and multidisciplinary (Scopus and Wos) fields (see Appendix A). The results obtained

were transferred to a bibliographic reference manager (EndnoteWeb) to proceed with the elimination of duplicates. After eliminating the duplicates, we found 473 documents.

Selection of studies: two reviewers independently prepared the selection of articles in 3 phases; title, abstract and full text. After reading in the 3 phases, we had a total final selection of 13 original studies.

Quality evaluation. With the aim of evaluating the methodological quality of the studies, all selected works were evaluated according to a checklist. In the case of the systematic reviews, PRISMA (Moher et al., 2009) was used and those articles that did not exceed 65% were eliminated. In the case of research studies, CONSORT has been used (Cobos-Carbo & Augustovski, 2011). Additionally, it has been assessed that all the included studies had the requirements established in the elaboration of experimental studies.

Analysis and extraction of data: To be able to determine the effectiveness of these treatments, the following variables have been considered:

- Professionals participating in the intervention.
- Study sample and duration of treatment.
- Remission of symptoms (measured through the PANSS (Kay et al., 1987) test made up of 30 items scored from 1 (absent symptoms) to 7 (extreme) in which the minimum score is 30 and the maximum of 210 points. Hospital readmissions, measured as a percentage of readmissions.
- Level of social functionality understood as the exercise of the rights and obligations of the individual in the community. Two measures were used: Personal and Social Performance Scale (PSP) (Chiu et al., 2018; Kawata & Revicki, 2008) in which 4 areas of social and individual occupational performance are measured: socially useful/approved activities, personal and social relationships, self-care, and non-compliant behaviors. adaptive. Together with it, the Global Assessment of Functioning (GAF) measures how much the symptomatology affects social functionality or the day-to-day life of the person (Suzuki et al., 2015). On both scales, scores between 1 and 100 are obtained, the better the results the higher the score.
- Quality of life (measured using the Quality of Life Inventory QOLI) (Landeen et al., 2000). It consists of 21 items in which the higher the score, the greater the improvement. This score is grouped into 4 categories or factors: Intrapsychic functions: cognition, conation and affectivity (items 13-17,20-21); Interpersonal relationships: interpersonal and social experience (items 1-8); Instrumental role: work, study, parental duties (items 9-11); and Use of common objects and daily activities (items 18-19).

Results

We located 13 studies (Figure 1) with an average of 135 participants per study in which the groups are distributed homogeneously except for two studies (Chatterjee et al., 2014; Lim et al., 2017) with some difference in terms of participants between the intervention group and the control group. The main results of our analysis are those presented below (Table 1):

Professionals participating in the intervention: From the 13 studies analyzed, we have not located a homogeneous profile in the constitution of the groups. Thus, 11 studies had

psychiatrists, 9 works had nurses specialized in mental health, 5 studies with social workers and 4 of them had psychologists. The presence of occupational therapists appears in only 2 papers.

Symptomatic remission. The ACT (Botha et al., 2014; Vasfi et al., 2015; Hansen et al., 2012; Luo et al., 2019; Sharifi et al., 2012; Tempier et al., 2012) with a sample of 531 participants, shows an average score of 43.98 points compared to 54.24 points for the control group. On the other hand, the CBR (Cai et al., 2015; Chatterjee et al., 2014; Chen et al., 2021; Lim et al., 2017; Puspitosari et al., 2019; Zhou et al., 2015) shows a mean score of 49.78 compared to 51.68 in the control group in a population of 1124 participants, but these data are not significant in terms of effectiveness.

Hospital readmissions. 5 studies on ACT (Luo et al., 2019; Botha et al., 2014; Sharifi et al., 2012; Vasfi et al., 2015; Sungur et al., 2011), with a sample of 462 participants show 19 0.05% of hospital readmissions compared to 39.83% in the control group. The CBR does not include studies on readmissions.

Social functionality. The ACT (Botha et al., 2014; Hansen et al., 2012; Luo et al., 2019; Tempier et al., 2012) shows a mean improvement of 11.36 in the intervention group vs. 7.50 in the control group, with a sample of 281 participants. The CBR (Chatterjee et al., 2014) shows improvement data of 2.47 points compared to 0.44 in the control group with a population of 768 participants.

Quality of life. All the studies that analyze this variable establish the evaluation on the 21 items of the questionnaire. The ACT (Hansen et al., 2012; Sungur et al., 2011) shows a mean improvement of 1.40 points compared to 0.3 for the control group in a population sample of 162 people. The CBR (Puspitosari et al., 2019) shows an improvement of 14.28 points compared to 9.66 in the control group in a sample size of 100 people.

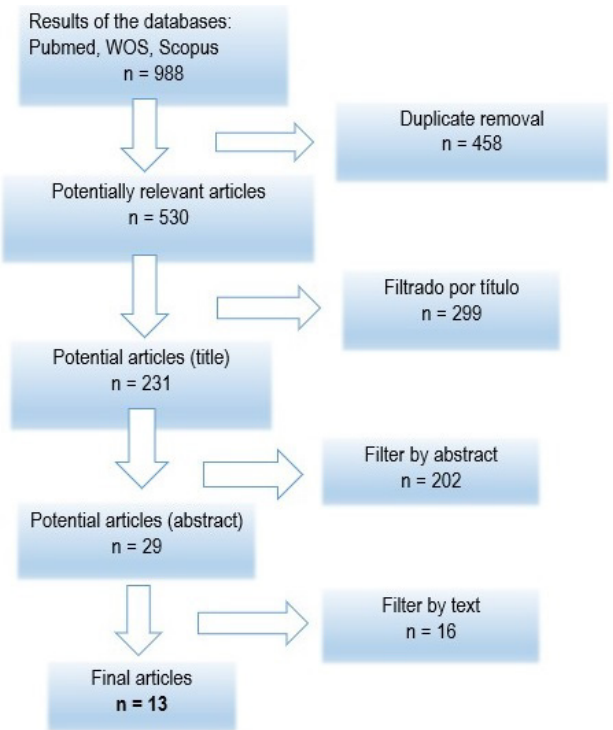

Figure 1. Filtering results.

Table 1. Synthesis of main results.

Reference	Intervention	Professional team	Country	Sample	Treatment duration	Symptom remission	Hospital read missions	Social functionality	Quality of life
Hansen et al. (2012)	ACT vs CAT	Physiotherapist Community nurse Social worker	Denmark	62 (31 + 31)	9 months	IG: 41.9 -> 37.8 GC: 43.3 -> 34.6	Not included	IG. 40.9 -> 43.3 GC: 38.4 -> 41.3	IG: 4.26 -> 5 GC: 4.6 -> 5.2
Luo et al. (2019)	ACT vs ST	Psychiatrist Nurse Psychiatrist Clinical Psychologist Social Worker Labor specialist	China	60 (30 + 30)	12 months	IG: 76 -> 56 GC: 75 -> 71	IG: 3.3% GC: 25%	IG: 53 -> 57 GC: 53 -> 54	Not included
Tempier et al. (2012)	ACT vs ST	Psychiatrist	Italy	107 (57 + 50)	18 months	IG: 51.6 CG: 59.7	Not included	IG: 64.2 vs CG: 55.89	Not included
Botha et al. (2014)	ACT vs ST	Psychiatrist Social worker Psychiatric nurse Occupational therapist Psychologist	South Africa	52 (31 + 21)	36 months	IG: 105.52 -> 57.52 CG: 97.10 -> 54.90	IG: 95% 0.41 (± 0.63) CG: 95% 1.19 (±0.98)	IG: 34.29 (±3.58) -> 61.97 (±9.1) CG: 36.29 (±6.37) -> 54.90 (±10.8)	Not included
Sharifi et al. (2012)	ACT vs ST	Social worker Psychiatrist Psychiatric nurse	Iran	130 (66 + 64)	12 months	IG: 25% CG: 8%	IG: 28.57% CG: 40.63%	Not included	Not included
Vasfi et al. (2015)	ACT vs ST	Psychiatry Public health	Iran	120 (60+60)	20 months	IG: 49.5 -> 17 CG: 49 -> 51	IG: 43.33% CG: 91.67%	Not included	Not included
Sungur et al. (2011)	ACT vs ST	2 psychiatrists Psychologist 2 psychiatric nurses	Turkey	100 (50+50)	24 months	Not included	IG: 1% CG: 2%	Not included	IG: 2.05. 95% (CI 1.53 - 2.57)
Chen et al. (2021)	CBR vs MCT	Occupational therapist Psychologist Psychiatrist nurse Psychiatrist	China	120 (58 + 62)	36 months	IG: 69.55 CG: 61.29	Not included	IG: + 3.17 CG: -1.19	Not included
Lim et al. (2017)	CBR vs ST	Psychiatrist Psychiatrist nurse	USA	246 (152 + 94)	12 months	IG: 39.22 CG: 42.10	Not included	IG: 3.13 CG: 2.93	Not included
Puspitosari et al. (2019)	CBR vs ST	Psychiatrist Psychiatrist nurse Social worker	Indonesia	100 (50 + 50)	4 months	IG: 69.26 GC: 74.82	Not included	No consta	IG. 14.28 CG: 9.66
Zhou et al. (2015)	CBR vs ST	Psychiatrist Psychiatrist nurse	China	120 (60 + 60)	12 months	IG: 49.5 CG: 59.74	Not included	IG: +3.54 vs CG: 0.37	Not included
Cai et al. (2015)	CBR vs ST	Not included	China	256 (133 + 123)	18 months	IG: 23.23 -> 21.36 CG: 22.71 -> 20.46	Not included	Not included	Not included
Chatterjee et al. (2014)	CBR vs ST	Psychiatrist	India	282 (187 + 95)	12 months	IG: −3.75 (−7.92 to 0.42) CG: −0.95 (−1.68 to −0.23)	Not included	IG: 0.05 (0.25) CG: −0.37 (0.34)	Not included

ST: Standard Treatment; ACT: Assertive Community Treatment; IG: Intervention Group; CG: Control Group; CBR: Community Based Rehabilitation; CAT: Cognitive Adaptation Training; MCT: MetaCognitive Training.

Discussion

This review aimed to know the effectiveness of interventions in social participation in people with schizophrenia.

Considering the impact of schizophrenia on social participation, 13 studies were a very small number. Beyond the number, we must highlight the level of evidence. They are ECAs (level I= and comparative studies (II+). That is, there is a low risk of bias and a high probability of establishing a causal relationship. Also, the sample sizes in all cases have been statistically relevant.

Virtually all (with the exception of social functionality) have evaluated the variables with the same standardized scales. This fact allows comparison between studies. The data show an improvement in social participation both in terms of well-being (based on the participants' own perception through the QOLI questionnaire), and symptomatic remission, social functionality and hospital readmissions. However, social inclusion depends on many more factors such as employment, geographical environment, community environment, cultural context, time etc.

Among the possible limitations we would like to highlight: A) The geographical and/or cultural environment in which some studies have been carried out. Thus, in the case of the ACT, only three studies (Hansen et al., 2012; Lim et al., 2017; Tempier et al., 2012) are carried out in a Western culture. The rest are carried out in cultures not applicable to our environment. B) The population mean between the ACT/CBR techniques varies considerably, so comparative analyzes of some variables must be taken with some care. C) We have detected certain deficiencies in the measurements of some variables. Thus, in the case of quality of life, all the studies establish the total score and not on interpersonal relationships. D) The selection of studies was limited to articles published in English and Spanish. E) An important part of the studies focuses on low- and middle-income countries (Chatterjee et al., 2014; Botha et al., 2010, 2014; Vasfi et al., 2015; Sharifi et al., 2012; Sungur et al., 2011). In these cases, the impacts of a community-based psychosocial intervention may have a different impact on clinical outcomes.

The selected techniques, ACT and CBR, are essential for the improvement in social participation. The data obtained is that the ACT is capable of obtaining better results than the CBR in social participation, one of the fundamental occupational areas.

Professionals participating in the intervention: None of the 13 studies described the roles played by each of the professionals, so we have not been able to assess the effectiveness of the technique according to the professionals. We believe that it would be interesting and appropriate for future studies to determine the role played by each of the professionals that make up the professional team.

We understand that all the professionals mentioned (psychiatrists, mental health nurses, psychologists or occupational therapists) are experts in behavior modification. This is where occupational therapy, unlike other disciplines, uses adaptation of the environment where people carry out their significant daily activities. The guide for schizophrenia ((Ministerio de Sanidad y Consumo, 2009), not only has therapists in the work group, but also mentions the importance of occupational therapy as a method of adapting the environment to the person in what we call practice centered on the person, not on the person to the environment as opposed to the aforementioned disciplines.

The fact that the occupational therapist barely appears in the teams may be due to several reasons. We would like to highlight the tendency of occupational therapy to

specialize in other branches such as physical rehabilitation (Andresen et al., 2006). Therefore, it would be ideal to demand and facilitate the investigation of occupational therapy in mental health.

Symptom remission: All the studies analyze this variable. This may be due to the traditional mechanistic view of mental health (alterations in perception, arousal, delusional behavior, dullness...), an essential variable for achieving adequate social participation in the community. In situations of aggravated or severe symptoms, correct social participation becomes very complicated. For this reason, we believe that all the articles that analyze symptomatic remission reside in the importance given by society and health services to the symptoms of schizophrenia.

The most effective results are those of the ACT (43.98 points). This may be due to the fact that assertiveness addresses the problems derived from it in a more direct way, that is, the main focus is the patient while, in CBR, the focus is on the different user environments where there is a problem derived from the schizophrenia, such as the family or work environment. However, we believe that these data must be taken with care since the population mean varies considerably (ACT: mean of 88.50 participants; CBR 187.33), so it would be ideal to propose similar studies in larger populations to see if the efficacy results are maintained or not.

Hospital readmissions: only 5 studies analyze it, all on ACT (Botha et al., 2014; Vasfi et al., 2015; Luo et al., 2019; Sharifi et al., 2012; Sungur et al., 2011). This data is curious to say the least, given its importance. A hospital readmission causes, depending on the process, a restart in the intervention. For this reason, a readmission to hospital caused by different reasons such as a considerable increase in symptoms, a psychotic break or abandonment of pharmacological treatment, for example, causes serious consequences for patients in terms of the psychosocial rehabilitation process and social participation.

Also, the mean population of the studies is 92.4 people per study. That is why we can consider that the sample sizes are significant but could be improved. A size of less than 30 participants is insufficient for drawing conclusions in mental disorders such as schizophrenia. Therefore, it would be interesting to increase it to be able to extrapolate these data to the whole population.

Its average results are 19.05%. All this in an average of 16 months of intervention, time that we consider adequate since if the intervention time is longer, there could be a risk of "hospitalization" and if it is less, there could be a risk of readmission.

Level of social functionality: ACT (Luo et al., 2019; Botha et al., 2014; Tempier et al., 2012) is the most effective technique, 11.36 points in a total sample of 281 participants. It may be due to the focus on assertiveness. The greatest efficacy has taken place in Tempier et al. (2012). This may be due to the cultural factor, carried out in Italy, where the culture and society are characterized with a marked extrovert and social tone.

The CBR does not have an approach fully centered on the participants, but rather on the environments. The ACT focuses more on individual problems through assertiveness. It may be differential in this sense that the ACT has better results due to its more individualistic intervention in the more collective vision of the CBR.

It would also be interesting to carry out more studies on the level of social functionality of people with schizophrenia, since 13 studies worldwide in a 10-year range cannot be considered a significant number. While it would also be ideal to increase both the assessments of social participation from social and health services in people with schizophrenia, also increasing the final sample size of the set of studies on this topic.

Quality of life: We believe that given the importance of this aspect, 5 studies (Chen et al., 2021; Hansen et al., 2012; Luo et al., 2019; Tempier et al., 2012; Hansen et al., 2012; Puspitosari et al., 2019; Sungur et al., 2011) are very few, so it would be ideal to carry out studies that analyze this variable.

The most effective intervention has been ACT (Asher et al., 2017), with an improvement of 1.40 out of 21 points. The CBR technique shows a score of 14.28 points from the participants. Both results are obtained as a final assessment. Thus, although the most effective intervention was ACT with an improvement of 1.40 points, it is equivalent to an improvement of 6.67% in terms of quality of life. We do not consider these results to be significant.

Specifically, Sungur et al. (2011), based on the ACT, with a population of 151 people, and with improvement results of 2.05 greater perception compared to the control group (95% (CI 1.53 - 2.57)) is where we find the best results. It would be ideal to carry out more studies that analyze the quality of life. These data may be due to the fact that the objective of the 3 techniques is to improve social participation, but only ACT offers support in crisis situations, which is why ACT is capable of creating an atmosphere of security and support in the participants.

Therefore, the results show a strong effect on social functioning and the reduction of hospital readmissions.

Implications for research

- Given the positive results of the ACT, it is advisable to carry out new studies in western geographical and/or cultural environments.

Implications for practice

There are several practical implications of this study:

- According to the data obtained, we consider it essential to redefine the roles of the different professionals involved in social participation.
- Within the existing protocols, it is essential to include occupational therapy as a measure of social integration with a community approach after hospital discharge.
- The implementation of techniques such as ACT would produce a considerable reduction in terms of hospital readmissions (therefore, economic resources) and an improvement in the quality of life of these people and their environments.

Conclusions

- Social participation is a fundamental occupational area for the final achievement of any psychosocial rehabilitation process.
- The ACT has shown significantly better results than the CBR.
- We must take the results obtained with care due to the limitations that have been exposed.
- The visibility of occupational therapy is increasing every day, but it is still not enough in the findings.

References

Andresen, E. M., Tang, J. J., & Barney, K. F. (2006). The importance of occupational therapy contributions to health services research. *Occupational Therapy Journal of Research*, *26*(3), 108-116. http://dx.doi.org/10.1177/153944920602600304.

Asher, L., Patel, V., & Silva, M. J. (2017). Community-based psychosocial interventions for people with schizophrenia in low and middle-income countries: systematic review and meta-analysis. *BMC Psychiatry*, *17*(1), 1-15. http://dx.doi.org/10.1186/s12888-017-1516-7.

Aubin, G., Stip, E., Gélinas, I., Rainville, C., & Chapparo, C. (2009). Daily activities, cognition and community functioning in persons with schizophrenia. *Schizophrenia Research*, *107*(2-3), 313-318. http://dx.doi.org/10.1016/j.schres.2008.08.002.

Botha, U. A., Koen, L., Galal, U., Jordaan, E., & Niehaus, D. J. H. (2014). The rise of assertive community interventions in South Africa: a randomized control trial assessing the impact of a modified assertive intervention on readmission rates; a three year follow-up. *BMC Psychiatry*, *14*, 56. http://dx.doi.org/10.1186/1471-244X-14-56.

Botha, U. A., Koen, L., Joska, J. A., Hering, L. M., & Oosthuizen, P. P. (2010). Assessing the efficacy of a modified assertive community-based treatment programme in a developing country. *BMC Psychiatry*, *10*, 2-8. http://dx.doi.org/10.1186/1471-244X-10-73.

Cai, J., Zhu, Y., Zhang, W., Wang, Y., & Zhang, C. (2015). Comprehensive family therapy: an effective approach for cognitive rehabilitation in schizophrenia. *Neuropsychiatric Disease and Treatment*, *11*, 1247-1253. http://dx.doi.org/10.2147/NDT.S83569.

Canadian Psychiatric Association – CPA. (2005). Clinical practice guidelines. Treatment of schizophrenia. *Canadian Journal of Psychiatry*, *50*(13, Suppl. 1), 7S-57S.

Chatterjee, S., Naik, S., John, S., Dabholkar, H., Balaji, M., Koschorke, M., Varghese, M., Thara, R., Weiss, H. A., Williams, P., McCrone, P., Patel, V., & Thornicroft, G. (2014). Effectiveness of a community-based intervention for people with schizophrenia and their caregivers in India (COPSI): a randomised controlled trial. *Lancet*, *383*(9926), 1385-1394. http://dx.doi.org/10.1016/S0140-6736(13)62629-X.

Chen, Q., Sang, Y., Ren, L., Wu, J., Chen, Y., Zheng, M., Bian, G., & Sun, H. (2021). Metacognitive training: a useful complement to community-based rehabilitation for schizophrenia patients in China. *BMC Psychiatry*, *21*(1), 38. http://dx.doi.org/10.1186/s12888-021-03039-y.

Chiu, E. C., Hung, T. M., Huang, C. M., Lee, S. C., & Hsieh, C. L. (2018). Responsiveness of the personal and social performance scale in patients with schizophrenia. *Psychiatry Research*, *260*, 338-342. http://dx.doi.org/10.1016/j.psychres.2017.11.053.

Cobos-Carbo, A., & Augustovski, F. (2011). CONSORT 2010 declaration: updated guideline for reporting parallel group randomised trials. *Medicina Clínica*, *137*(5), 213-215. http://dx.doi.org/10.1016/j.medcli.2010.09.034.

Consellería de Sanidade. (2007). *Plan estratéxico de saúde mental Galicia 2006-21*. Retrieved in 2022, October 11, from https://extranet.sergas.es/catpb/Docs/cas/Publicaciones/Docs/SaludMental/PDF9-50.pdf

D'Amico, M. L., Jaffe, L. E., & Gardner, J. A. (2018). Evidence for interventions to improve and maintain occupational performance and participation for people with serious mental illness: a systematic review. *The American Journal of Occupational Therapy*, *72*(5), 1-11. http://dx.doi.org/10.5014/ajot.2018.033332.

Gutman, S. A. (2021). Promoting occupational therapy mental health research: proceedings from the 2017 AOTF mental health planning grant collective. *Occupational Therapy Journal of Research*, *41*(3), 143-152. http://dx.doi.org/10.1177/15394492211005459.

Hansen, J. P., Østergaard, B., Nordentoft, M., & Hounsgaard, L. (2012). Cognitive adaptation training combined with assertive community treatment: a randomised longitudinal trial. *Schizophrenia Research*, *135*(1-3), 105-111. http://dx.doi.org/10.1016/j.schres.2011.12.014.

Jiang, J., Zhang, L., Zhu, Z., Li, W., & Li, C. (2015). Metacognitive training for schizophrenia: a systematic review. *Shanghai Jingshen Yixue*, *27*(3), 149-157. http://dx.doi.org/10.11919/j.issn.1002-0829.215065.

Kawata, A. K., & Revicki, D. A. (2008). Psychometric properties of the Personal and Social Performance scale (PSP) among individuals with schizophrenia living in the community. *Quality of Life Research: An*

International Journal of Quality of Life Aspects of Treatment, Care and Rehabilitation, *17*(10), 1247-1256. http://dx.doi.org/10.1007/s11136-008-9400-z.

Kay, S. R., Fiszbein, A., & Opler, L. A. (1987). The positive and negative syndrome scale (PANSS) for schizophrenia. *Schizophrenia Bulletin*, *13*(2), 261-276. http://dx.doi.org/10.1093/schbul/13.2.261.

Landeen, J., Pawlick, J., Woodside, H., Kirkpatrick, H., & Byrne, C. (2000). Hope, quality of life, and symptom severity in individuals with schizophrenia. *Psychiatric Rehabilitation Journal*, *23*(4), 364-369. http://dx.doi.org/10.1037/h0095142.

Lim, C., Barrio, C., Hernandez, M., Barragan, A., & Brekke, J. S. (2017). Recovery from schizophrenia in community-based psychosocial rehabilitation settings: rates and predictors. *Research on Social Work Practice*, *27*(5), 538-551. http://dx.doi.org/10.1177/1049731515588597.

Luo, X., Law, S. F., Wang, X., Shi, J., Zeng, W., Ma, X., Chow, W., Liu, S., Zhao, W., Liu, X., Yao, S., & Phillips, M. R. (2019). Effectiveness of an assertive community treatment program for people with severe schizophrenia in mainland China: a 12-month randomized controlled trial. *Psychological Medicine*, *49*(6), 969-979. http://dx.doi.org/10.1017/S0033291718001629.

Ministerio de Sanidad y Consumo – MSCBS. (2009). *Guía de práctica clínica sobre la esquizofrenia y el trastorno psicótico incipiente*. Madrid: Ministerio de Sanidad y Consumo.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement. *Journal of Clinical Epidemiology*, *62*(10), 1006-1012. http://dx.doi.org/10.1016/j.jclinepi.2009.06.005.

Morris, K., Reid, G., & Spencer, S. (2018). Occupational therapy delivered by specialists versus non-specialists for people with schizophrenia. *Cochrane Database of Systematic Reviews*, *10*(10), 1-24. http://dx.doi.org/10.1002/14651858.CD012398.pub2.

Puspitosari, W. A., Wardaningsih, S., & Nanwani, S. (2019). Improving the quality of life of people with schizophrenia through community based rehabilitation in Yogyakarta Province, Indonesia: a quasi experimental study. *Asian Journal of Psychiatry*, *42*, 67-73. http://dx.doi.org/10.1016/j.ajp.2019.03.022.

Red de Salud Mental de Guipuzkua. (2022). *Plan estratégico 2018-2022: Red de Salud Mental de Guipukua*. Retrieved in 2022 August 2, from https://www.osakidetza.euskadi.eus/contenidos/informacion/osk_sagip_bienvenida_ambito/es_def/adjuntos/PLAN_ESTRATEGICO_RSMG_2018-2022.pdf

Royal Australian and New Zealand College of Psychiatrists – RANZCP. (2016). Clinical practice guidelines for the management of schizophrenia and related disorders. *The Australian and New Zealand Journal of Psychiatry*, *50*(5), 410-472. http://dx.doi.org/10.1177/0004867416641195.

Sharifi, V., Tehranidoost, M., Yunesian, M., Amini, H., Mohammadi, M., & Jalali Roudsari, M. (2012). Effectiveness of a low-intensity home-based aftercare for patients with severe mental disorders: a 12-month randomized controlled study. *Community Mental Health Journal*, *48*(6), 766-770. http://dx.doi.org/10.1007/s10597-012-9516-z.

Sungur, M., Soygür, H., Güner, P., Üstün, B., Çetin, I., & Falloon, I. R. (2011). Identifying an optimal treatment for schizophrenia: a 2-year randomized controlled trial comparing integrated care to a high-quality routine treatment. *International Journal of Psychiatry in Clinical Practice*, *15*(2), 118-127. http://dx.doi.org/10.3109/13651501.2011.554987.

Suzuki, T., Uchida, H., Sakurai, H., Ishizuki, T., Tsunoda, K., Takeuchi, H., & Mimura, M. (2015). Relationships between global assessment of functioning and other rating scales in clinical trials for schizophrenia. *Psychiatry Research*, *227*(2-3), 265-269. http://dx.doi.org/10.1016/j.psychres.2015.02.024.

Tempier, R., Balbuena, L., Garety, P., & Craig, T. J. (2012). Does assertive community outreach improve social support? Results from the Lambeth Study of early-episode psychosis. *Psychiatric Services*, *63*(3), 216-222. http://dx.doi.org/10.1176/appi.ps.20110013.

Vasfi, M. G., Moradi-Lakeh, M., Esmaeili, N., Soleimani, N., & Hajebi, A. (2015). Efficacy of aftercare services for people with severe mental disorders in Iran: a randomized controlled trial. *Psychiatric Services*, *66*(4), 373-380. http://dx.doi.org/10.1176/appi.ps.201400111.

World Federation of Occupational Therapists – WFOT. (2021). *Occupational therapy and community-centred practice*. Retrieved in 2022 October 11, from https://www.wfot.org/resources/occupational-therapy-and-community-centred-practice

World Federation of Occupational Therapists – WFOT. (2022). *Statement that presents WFOT's position on occupational therapy and mental health*. Retrieved in 2022 October 11, from https://www.wfot.org/resources/occupational-therapy-and-mental-health

World Health Organization – WHO. (2021). *Community-based rehabilitation: CBR guidelines*. Retrieved in 2021 November 7, from https://www.who.int/publications-detail-redirect/9789241548052

World Health Organization – WHO. (2022, January 21). *Esquizofrenia*. Retrieved in 2022 October 11, from https://www.who.int/es/news-room/fact-sheets/detail/schizophrenia

Xia, J., Merinder, L. B., & Belgamwar, M. R. (2011). Psychoeducation for schizophrenia. *Cochrane Database of Systematic Reviews*, *6*, Cd002831.

Zhou, Y., Zhou, R., Li, W., Lin, Y., Yao, J., Chen, J., & Shen, T. (2015). Controlled trial of the effectiveness of community rehabilitation for patients with schizophrenia in Shanghai, China. *Shanghai Jingshen Yixue*, *27*(3), 167-174. http://dx.doi.org/10.11919/j.issn.1002-0829.215026.

Author's Contributions

Alejandro Sánchez Balsa was responsible for conceptualization and foundation of the work, articles selection, data analysis and extraction, and writing and review of the work. María Sobrido Prieto was responsible for bibliographic search, articles selection, and writing and review of the work. All authors approved the final version of the text.

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Section editor

Profa. Dra. Ana Paula Serrata Malfitano

Appendix A. Appendix caption with period at the end (in English).

(Soci*[Title] OR Famil*[Title] OR "Friends"[Mesh] OR friend*[title] OR "Community Integration"[Mesh] OR Communit*[Title] OR "Family Relations"[Mesh] OR "Public Relations"[Mesh] OR Relation*[title])
AND
("Schizophrenia"[Mesh] OR Schizophreni*[Title])
AND
(Intervent* OR "Therapeutics"[Mesh] OR Therap* OR "therapy" [Subheading] OR Treatment* OR rehabilitation[Mesh] OR Rehabil* OR "Occupational Therapy"[Mesh] OR "Occupational Therapy")
AND
("Assertive Community Treatment" OR ACT OR Community-Based OR "Community Based" OR cbr OR "Social Support" OR "Psychosocial Support Systems"[Mesh])
Limit:
·10 years.
· Articles in English, Spanish and Portuguese.
· Opinion articles, clinical cases and narrative reviews were excluded.
· Adults
· Results: 176

Cinahl/Wos

Tittle (Social* OR Famil* OR friend* OR communit* OR Relation*)
AND
(MH "Schizophrenia+") OR TI Schizophre*)
AND
(Therap* OR treatment* OR intervent* OR Rehabil*)
AND
("Assertive Community Treatment" OR ACT OR Community-Based OR "Community Based" OR cbr OR "Social Support" OR "Psychosocial Support" OR "Social networks")
LImits: 10 YERRAS. Article
Adult
Articles in English, Spanish and Portuguese.
Results: 116

Psychinfo

(Social* OR Famil* OR friend* OR communit* OR Relation*)
AND
Tittle. Schizophre*
AND
(Therap* OR treatment* OR intervent* OR Rehabil*)
AND
("Assertive Community Treatment" OR ACT OR Community-Based OR "Community Based" OR cbr OR "Social Support" OR "Psychosocial Support" OR "Social networks")
Limits: 10 years. Article OR clinical trial
Articles in English, Spanish and Portuguese.
Results: 317