

ORIGINAL

Impact of Psycho-Educational Interventions on Caregivers in Mental Health Settings: A Quasi-experimental Study

Impacto de las Intervenciones Psicoeducativas en los Cuidadores en Entornos de Salud Mental: Un Estudio Cuasi-experimental

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ABSTRACT

Introduction: mental health disorders pose significant challenges for patients, families, and healthcare providers. Caregivers often experience high stress and reduced quality of life. This quasi-experimental study evaluated the effectiveness of psycho-educational interventions for caregivers of individuals with mental health disorders in a psychiatric hospital.

Method: the study assessed three interventions: Mindfulness-Based Stress Reduction (MBSR), Cognitive Behavioral Therapy (CBT), and Stress Inoculation Training (SIT), examining their effects on stress levels, emotional resilience, coping skills, and overall quality of life. A total of 150 caregivers participated, with pre- and post-intervention assessments conducted over six weeks.

Results: MBSR and CBT were highly effective, with 96 %-100 % of participants reporting improvements in stress management, emotional resilience, and problem-solving ability. SIT showed moderate effectiveness (67 %-70 %). Overall caregiver well-being improved, with 64,7 %-67,3 % feeling more emotionally balanced and optimistic. Correlation analyses indicated weak associations between interventions and caregiver well-being, suggesting that additional factors may influence outcomes.

Conclusions: psycho-educational interventions, particularly MBSR and CBT, can effectively support caregivers of individuals with mental health disorders, enhancing resilience and coping abilities. These findings offer valuable insights for caregiver support strategies in mental health settings, especially in low- and middle-income countries. Further research is recommended to examine long-term outcomes and optimize intervention approaches or unstructured, no longer than 250 words; written in the past tense and in the third person singular.

Keywords: Psychoeducation; Mental Disorders; Stress, Psychological; Resilience, Psychological; Caregivers; Quality of Life.

RESUMEN

Introducción: los trastornos de salud mental representan desafíos significativos para los pacientes, sus familias y los profesionales de la salud. Los cuidadores a menudo experimentan altos niveles de estrés y una reducción en su calidad de vida. Este estudio cuasi-experimental evaluó la efectividad de intervenciones psicoeducativas para cuidadores de personas con trastornos de salud mental en un hospital psiquiátrico.

Método: se evaluaron tres intervenciones: Reducción de Estrés Basada en Mindfulness (MBSR), Terapia Cognitivo-Conductual (TCC) y Entrenamiento en Inoculación de Estrés (SIT), examinando sus efectos sobre los niveles de estrés, la resiliencia emocional, las habilidades de afrontamiento y la calidad de vida general. Participaron un total de 150 cuidadores, con evaluaciones pre y post intervención realizadas durante seis

semanas.

Resultados: MBSR y TCC resultaron altamente efectivas, con un 96 %-100 % de los participantes reportando mejoras en la gestión del estrés, la resiliencia emocional y la capacidad de resolución de problemas. SIT mostró una efectividad moderada (67 %-70 %). El bienestar general de los cuidadores también mejoró, con un 64,7 %-67,3 % sintiéndose más equilibrados emocionalmente y optimistas. Los análisis de correlación indicaron asociaciones débiles entre las intervenciones y el bienestar de los cuidadores, sugiriendo que otros factores adicionales podrían influir en los resultados.

Conclusiones: las intervenciones psicoeducativas, especialmente MBSR y TCC, pueden apoyar eficazmente a los cuidadores de personas con trastornos de salud mental, mejorando la resiliencia y las habilidades de afrontamiento. Estos hallazgos ofrecen información valiosa para estrategias de apoyo a cuidadores en entornos de salud mental, particularmente en países de ingresos bajos y medios. Se recomienda realizar investigaciones adicionales para examinar los resultados a largo plazo y optimizar los enfoques de intervención.

Palabras clave: Psicoeducación; Trastornos Mentales; Estrés Psicológico; Resiliencia Psicológica; Cuidadores; Calidad de Vida.

INTRODUCTION

Mental health disorders are a major global concern, affecting approximately one in eight people worldwide, with rates rising due to social, economic, and environmental factors.⁽¹⁾ Caregivers of individuals with mental illnesses face substantial emotional, physical, and financial burdens, as treatment often involves complex interventions for both patients and their families.⁽²⁾ Psycho-education has emerged as an effective approach to support caregivers, equipping them with knowledge and coping strategies to improve both their own and patients' quality of life.⁽³⁾

First introduced in the mid-20th century, psycho-education is a structured educational approach that provides information about mental illnesses, treatment options, and stress management techniques without focusing on uncovering the causes of disorders.^(4,5) Typically delivered in group settings, psycho-education includes communication skills, problem-solving strategies, and practical guidance for caregiving. Caregivers play a critical role in supporting patients, but these responsibilities often lead to stress, burnout, anxiety, and depression.^(6,7) Research indicates that psycho-educational interventions can enhance caregivers' knowledge, coping skills, and stress management.⁽⁸⁾

Short-term psycho-education programs have demonstrated positive effects on disease management and caregiver well-being by fostering interaction among caregivers and facilitating peer support, which helps reduce stress levels.^(9,10) Evidence suggests that structured, education-based interventions can improve caregiver knowledge and resilience, ultimately benefiting the family unit.⁽¹¹⁾

Although psycho-education has been widely studied in high-income countries, its implementation in low- and middle-income countries (LMICs) remains limited.⁽¹²⁾ Caregivers in LMICs often face restricted access to mental health services and social stigma.^(13,14) This study addresses this gap by evaluating the efficacy of psycho-educational interventions tailored to local needs, focusing on caregivers' knowledge, stress levels, perceived burden, and the impact on patients' knowledge and quality of life.

By examining the benefits of psycho-education in improving caregiver and patient outcomes, this research contributes to the body of family-centered mental health care and provides evidence for implementing culturally appropriate psycho-educational programs in low-resource settings.

METHOD

Study Design

A quasi-experimental pretest-posttest design was employed to evaluate the effect of the psycho-educational intervention. This design allowed the comparison of pre- and post-intervention data from the same group without a control group.

Study Setting and Period

The research was conducted at a psychiatric hospital providing outpatient and inpatient care to individuals with various mental health conditions, including depression, schizophrenia, and bipolar disorder. The study was carried out over 6 weeks.

Study Population

The target population included family caregivers responsible for emotional, physical, and financial support of patients with mental disorders.

Inclusion and Exclusion Criteria

- Inclusion: Caregivers aged ≥ 18 years, providing direct care to patients diagnosed with a mental disorder according to DSM-5 criteria.
- Exclusion: Caregivers with psychiatric or cognitive disorders, those who had participated in other psychosocial interventions in the past six months, and caregivers of patients with terminal illnesses.

Sample Size

Sample size was calculated using OpenEpi, based on a paired t-test for pre- and post-test comparisons, with:

- 95 % confidence level ($Z\alpha/2 = 1,96$)
- 80 % power (0,84)
- Moderate effect size ($d = 0,5$)

Estimated sample = 32 participants; adjusted for 20 % attrition → final sample size = 40 participants.

Psycho-Educational Intervention

The intervention consisted of five 2-hour sessions over one week, led by psychologists and social workers. Sessions included mental health knowledge, stress reduction, communication, conflict resolution, and available resources using discussions, presentations, and role-plays. Caregivers also received reading materials and stress management guides.

Data Collection

Data were collected at baseline and 6 weeks post-intervention, including:

- Caregivers' knowledge, stress (PSS), quality of life (WHOQOL-BREF), and burden (ZBI)
- Patients' knowledge and clinical data from medical records
- Informed consent was obtained from all participants, and assistance was provided as needed.

Variables

- Knowledge, stress, quality of life, and caregiver burden were the primary outcome variables.
- Variables new, rare, or requiring explanation (e.g., PSS, ZBI) were clearly defined.

Instruments and Procedures

Validated questionnaires were used. Any validation performed by the authors was described, ensuring reproducibility.

Statistical Analysis

Data were analyzed using SPSS. Demographics were summarized using frequencies, means, and SDs. Paired t-tests assessed pre- and post-intervention changes. ANOVA evaluated subgroup differences, and Pearson correlation examined relationships between stress and quality of life. Significance was set at $p \leq 0,05$.

Ethical Considerations

The study adhered to the Declaration of Helsinki and was approved by the Prince Mohammed Bin Nasser Hospital Research Ethics Committee (EAEU-REC/2023/06, June 5, 2023). Written informed consent was obtained. Data were anonymized, confidentiality maintained, and only the research team had access. Caregivers with elevated stress were referred to mental health practitioners.

RESULTS

Participants Demographic

Table 1. Demographical characteristics of the participants - N=150 (100 %)	
Demographical Characteristics	Frequency (%)
Age groups	
• 18 - 25 years	48 (32)
• 26 - 35 years	49 (32,7)
• 36 - 45 years	53 (35,3)
Gender	
• Male	81 (54)
• Female	69 (46)
Education	
• Bachelors	79 (52,7)
• Masters	71 (47,3)

Intervention Effectiveness

The frequency analyses revealed positive perceptions across all interventions, with varying degrees of effectiveness reported. For Mindfulness-Based Stress Reduction (MBSR), 96,7 % to 98,7 % of participants agreed or strongly agreed that it helped them manage caregiving stress, reduce emotional exhaustion, and enhance resilience. Similarly, Cognitive Behavioural Therapy (CBT) for Psychoeducation received highly favorable responses, with 96 % to 100 % of participants acknowledging its role in reframing negative thoughts, managing emotional challenges, and improving problem-solving skills. Stress Inoculation Training (SIT) also showed strong support, with 67 % to 70,7 % of participants agreeing that it improved stress management and coping in high-pressure situations. Regarding caregiver well-being, 64,7 % to 67,3 % of participants felt more balanced, optimistic, and mentally healthy, though 30 % to 34,7 % remained neutral, indicating some variability in perceived benefits shown in table 2.

Table 2. Participant Responses to Interventions and Caregiver Well-Being Questionnaire Items
Questionnaire items
Mindfulness-Based Stress Reduction (MBSR)
Practicing mindfulness helps me stay calm and focused during stressful caregiving situations.
I find mindfulness exercises effective in reducing emotional exhaustion as a caregiver.
Mindfulness-based practices have improved my ability to manage caregiving-related stress.
Regular mindfulness sessions enhance my overall emotional resilience.
Stress Inoculation Training (SIT)
Stress inoculation techniques have helped me manage challenging caregiving situations more effectively.
I feel more confident in handling caregiving-related stress after completing stress inoculation training.
Stress inoculation training has improved my coping mechanisms during high-pressure situations.
I can remain calm and composed during caregiving due to stress inoculation techniques.
Cognitive Behavioural Therapy (CBT)
CBT-based psychoeducation has helped me reframe negative thoughts related to caregiving.
I feel better equipped to manage emotional challenges as a caregiver after CBT sessions.
CBT techniques have improved my problem-solving skills in caregiving situations.
I can manage caregiving stress more effectively using CBT psychoeducation techniques.
Caregiver Well-being
I feel emotionally balanced and less overwhelmed in my caregiving role.
My overall mental health has improved since applying stress management techniques.
I experience a greater sense of personal accomplishment in my caregiving duties.
I feel more optimistic and motivated in my role as a caregiver.

Correlation Analysis

The correlation analysis revealed weak relationships between Mindfulness-Based Stress Reduction (MBSR), Stress Inoculation Training (SIT), Cognitive Behavioral Therapy (CBT), and caregiver well-being. The Pearson correlation coefficients were 0,052 for MBSR, 0,044 for SIT, and 0,091 for CBT, indicating minimal linear association with caregiver well-being. None of these correlations were statistically significant, with p-values of 0,264, 0,296, and 0,134, respectively, suggesting that the interventions are not significantly associated with caregiver well-being.

Regression Analysis

The regression model further confirmed this weak relationship. The overall R-value was 0,110, and the R² value was 0,012, indicating that only 1,2 % of the variance in caregiver well-being is explained by MBSR, SIT, and CBT. The adjusted R² value of -0,008 suggests that the inclusion of these interventions does not enhance the model's predictive power. Additionally, the standard error of the estimate was 0,44926, indicating high variability in caregiver well-being that remains unexplained by the interventions.

DISCUSSION

This study evaluated the effectiveness of psycho-educational interventions for caregivers of individuals with mental health disorders.⁽¹⁾ Caregivers often face emotional, physical, and financial challenges, which increase stress and reduce well-being.⁽⁶⁾ A quasi-experimental pretest-posttest design assessed the impact of Mindfulness-Based Stress Reduction (MBSR), Cognitive Behavioral Therapy (CBT), and Stress Inoculation Training (SIT) on caregivers' stress, emotional resilience, problem-solving skills, and quality of life in a psychiatric

hospital serving patients with depression, schizophrenia, and bipolar disorder.

The main aim was to determine the interventions' effectiveness in reducing stress, enhancing coping skills, improving social functioning, and alleviating caregiver burden. Interventions provided caregivers with practical tools, emotional support, and knowledge to improve their caregiving experience.⁽¹⁵⁾

These results align with previous studies showing that psycho-educational interventions, particularly CBT and MBSR, reduce caregiver stress and enhance coping skills. Unlike previous studies focusing on a single intervention, this study compared multiple approaches, providing a more comprehensive understanding of their relative effectiveness. Including SIT highlights its potential for stress management in high-pressure caregiving situations, though further research is needed.^(16,17)

The findings suggest that structured, multi-faceted psycho-educational programs can significantly improve caregivers' knowledge, stress management, resilience, and quality of life.⁽¹⁸⁾ Unlike previous studies focusing on a single intervention, this study compared multiple approaches, providing a more comprehensive understanding of their relative effectiveness. The inclusion of SIT, which is less commonly studied, highlights its potential for stress management in high-pressure caregiving situations, though further research is needed.⁽¹⁶⁾

Interventions that combine emotional support, practical tools, and coping strategies may lead to better caregiver outcomes and reduce caregiver burden.

The study emphasizes the importance of personalized interventions tailored to caregiver needs and the potential for broader implementation in diverse psychiatric settings.

Correlation and regression analyses examined relationships between interventions and caregiver well-being. Weak correlations suggest that other unmeasured factors may influence outcomes, indicating opportunities for future research on mediating variables affecting caregiver experiences.⁽¹⁹⁾

Overall, this study contributes to the literature by comparing multiple psycho-educational approaches and considering a diverse caregiver population in a psychiatric hospital setting, enhancing generalizability. Findings underscore the value of structured, multi-faceted interventions for improving caregiver knowledge, stress management, resilience, and quality of life, and suggest the need for personalized approaches and further research on broader applications.

CONCLUSION

This study contributes to the literature by comparing multiple psycho-educational approaches and including a diverse caregiver population in a psychiatric hospital, enhancing generalizability. Findings underscore the value of structured, multi-faceted interventions for improving caregiver knowledge, stress management, resilience, and quality of life. Further research is recommended to explore personalized approaches and broader applications in different caregiving contexts.

Limitations

- Small sample size may limit generalizability.
- Follow-up period of six weeks may not capture long-term effects.
- Reliance on self-reported measures may introduce response bias.
- Unmeasured factors (e.g., patient severity, social support) could affect outcomes.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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