

EFFECT OF NURSING INTERVENTION PROGRAM ON ENHANCING EXPRESSED EMOTION AMONG FAMILY CAREGIVERS OF PATIENTS WITH SUBSTANCE USE DISORDERS.

Asmaa Atif Abd El-Shaheed¹, Ghada Mohammed Mourad², Fatma Mohammed Ibrahim³

¹Faculty of Nursing, Ain Shams University. Email: asmaaatef90@outlook.com

²Faculty of Nursing, Ain Shams University. Email: dr.ghada.mourad@nursing.asu.edu.eg

³Faculty of Nursing, Ain Shams University.

Email: Dr.fatma.ibrahim@nursing.asu.edu.eg

ABSTRACT

Introduction: Substance use disorder is a chronic disease. Caregiving for patients with substance use disorder places significant strains on caregivers causing a high level of expressed emotions, which recognized as a risk factor for exacerbation and relapse. **Aim:** To evaluate the effect of nursing intervention program for enhancing expressed emotion among family caregivers of patients with substance use disorders. **Methods:** A quasi-experimental design was utilized. The study was conducted in the in-patient addiction unit at Al-Abbasia Mental Health Hospital. A purposive sample of 45 family caregivers was selected according to certain inclusion criteria. Socio-demographic Data of Family Caregivers, Caregiver's knowledge regarding substance use disorder and the expressed emotion scale were used for data collection. **Results:** Pre-intervention, 73.3% of caregivers had unsatisfactory knowledge, which improved to 86.7% post-intervention. Significant reductions in expressed emotions were observed, with hostility levels decreasing from 77.8% to 68.8%, criticism from 73.3% to 66.7%, and emotional over-involvement from 75.6% to 71.1%. Overall, 71.1% of caregivers had high levels of expressed emotions pre-intervention, which dropped to 73.3% reporting low levels post-intervention. Total knowledge level and expressed emotions were negatively correlated post-intervention ($r = -0.114$, $p = 0.037$). These findings underscore the effectiveness of nursing interventions in improving caregiver knowledge and expressed emotion. **Conclusion:** The nursing intervention program significantly improved family caregivers' knowledge and reduced expressed emotions, including hostility, criticism, and emotional over-involvement. This highlights the critical role of targeted educational and emotional support programs in enhancing caregivers' capacity to manage patients with substance use disorders effectively.

Key words: Criticism, Emotional over-involvement, Hostility, Knowledge, Relapse.

Introduction:

Substance-related problems are considered one of the global problems endangering humans. Substance use disorder (SUD) is a group of physiological, cognitive and behavioral, symptoms and using the substance in spite of the significant issues it causes while a maladaptive pattern of substance use that results in serious negative outcomes, such as psychological, medical, or legal issues, or use in physically risky conditions that must occur again within a year is called a Substance abuse (Volkow and Blanco, 2023).

Substance use disorder affect person's physical, mental, emotional and financial health and cannot be addressed without considering the effect it has on caregivers. The physical and mental well-being of caregivers is caused by the stress that comes with providing care for people with SUDs. The development of specific care modalities aimed for caregivers is necessary to highlight the health consequences and promote self-care (Maina et al. 2021).

Family members who had individuals with SUD experienced negative effects on the family system including reduced family cohesion. Impacts on the family could be emotional strain. Anger, frustration, anxiety, fear, concern, despair, guilt and shame, or embarrassment are all possible feelings for family members. Financial strain, this could be brought on by spending money on substances, financial difficulties brought on by job loss, or dependence on government support. Distress or frustration in a relationship (Ólafsdóttir et al. 2020).

Additionally, Caregivers experience stress and strain brought on by the increase in erratic and irresponsible behaviors seen among substance use disorder's patients. This makes them more vulnerable to mental illnesses and impairs their coping skills. Domestic violence, including its verbal, physical, and sexual expressions, primarily affects the family. Low marital satisfaction, poverty, and shame are other variables that impair careers' well-being (Patil et al. 2023).

Expressed Emotion (E.E) refers to caregiver's attitude towards a person with a mental disorder as reflected by comments about the patient. It is a significant characteristic of the family milieu that has been found to predict symptom relapse in a wide range of mental disorders (Wearden et al. 2000).

Hostility, emotional over involvement and critical comments are the component of high expressed emotions. Family members with high EE are hostile, very critical and intolerant with the patient. They think they are helping by adopting this attitude. They not only criticize behaviors relating to the disorder but also the unique personality of the patient. A relapse is more likely to be caused by High EE than low one (Movaghar et al., 2021).

Hostility is a negative attitude toward the individual as the family believes that the individual is refusing to get better and that the disorder is under control. Family issues are frequently blamed on the patient. It consists of critical remarks that directed toward the patient as a person, rather than specific actions. Criticism is the domain which involves commenting negatively about the behavior or particular trait of the person; declaration of disagreement, disapproval, rejection of specific patient behaviors (Movaghar et al., 2021).

Emotional over involvement is a response when the members of a family consider themselves responsible for the mental illness. This is more observed in females. These family members think that any undesired occurrence is their fault and not the disorder's. The family members show a lot of concern for the patient and the disorder. Extremely preoccupied with the patient's condition (Fahrer et al., 2022).

Expressed emotions (EE) are important aspect of the family environment that has been proved to predict the recurrence of the symptom in a variety of mental illness. The empirical data explained that EE causing psychosocial stressors and it is directly associated with recurrence of illness (Essam et al., 2022).

Compared to a 21% relapse incidence after release back to low expressed emotion, 50% of patients discharged back to high expressed emotion families soon relapsed, making high expressed emotion the third common cause of relapse after medication non-adherence and drug usage. Therefore, Families are key resources but not routinely included in clinical practice for SUD. Family involvement can be increased in each stage along the SUD treatment and recovery (Hogue et al., 2021).

Moreover, inadequate understanding of patient's illness producing a negative behavior toward patient that may be due to disseminating of adequate information. These actions in the family have an undesired impact on patients and disseminating information will eradicate the inadequate understanding, and create more positive attitudes and actions toward the patients (Maina et al., 2021).

Materials and Methods

The aim of the study was to evaluate the effect of nursing intervention program for enhancing expressed emotion among family caregivers of patients with substance use disorders. It was hypothesized that nursing intervention program will have a positive effect for enhancing expressed emotion among family caregivers of patients with substance use disorders.

Research design

A quasi-experimental Research design (one group pre/post-test) was used in the current study. Quasi-experimental designs hold significant importance in research despite lacking the stringent control inherent in true experimental studies. They are especially valuable when random assignment of participants is not feasible or ethical. In the present study, this design was appropriate and effective, as it facilitated the assessment of the intervention's impact while maintaining reasonable control over confounding variables. Therefore, the design is most appropriate to investigate the effect of the nursing intervention program on expressed emotions among family caregivers of patients with substance use disorders.

Research setting

This study was conducted at the in-patient rehabilitation addiction unit at Al-Abbasia Mental Health Hospital, affiliated to General Secretariat of Mental Health. The male rehabilitation unit comprises 60 beds and admits patients following completion of detoxification, which is provided in a separate 30-bed detoxification unit. The female rehabilitation unit consists of 30 beds, offering tailored rehabilitation services for female patients. The intervention program was conducted within the rehabilitation units, including sessions held in the male unit's designated theater space to accommodate group activities with care givers.

Study Participants and Sample Size

The study included 45 family caregivers of patients with substance use disorders who provided direct care and resided in the same household as the patient. Caregivers with any psychiatric illness were excluded from participation.

The sample size was estimated using PASS 15 software, informed by findings from a previous study by Zaki and Ezz El-Din Prince (2021), which demonstrated a significant effect of a similar intervention. Assuming a medium effect size ($d = 0.5$) for changes in expressed emotion scores

pre- and post-intervention, and accounting for a 10% potential dropout rate, a total of 45 participants was determined to provide 80% power to detect a statistically significant effect at an alpha level of 0.05 using a two-sided paired t-test.

Data Collection Tools

I-A structured interview questionnaire

Socio-demographic Data of Family Caregivers

It includes characteristics of family caregivers such as age, sex, relative relation, educational level, occupation, monthly income, marital status, cost of patient treatment, suffering from any diseases, and specifying the disease.

Caregiver's knowledge regarding substance use disorders

It includes 14 statement covering the concept of substance use disorder, clinical signs, contributing factors, consequences, withdrawal symptoms, treatment approaches, and risk of relapse. Responses were rated on a 3-point Likert scale (Yes=2, No=1 & I don't know=0). The total scores are categorized as Unsatisfactory ($0 \leq 60\%$, 0-16.7) and Satisfactory ($>60\%$, 16.8-28). Higher scores indicate satisfactory level of knowledge.

II- The expressed emotion scale (EES)

The expressed emotion scale Mohammed (2016) was used for assessing the family expressed emotion, comprises 40 items across three domains hostility (16 items), criticism (14 items), and emotional over involvement (10 items). each statement requires participant to respond on a 3-points Likert scale (3=always, 2= sometimes and 1= never) reverse scoring was applied to Hostility (items 1, 2, 6, 7, 8 & 9) and Criticism (items 3, 4, 5, 9). Higher score indicates high expressed emotion.

Expressed Emotion	No. of items	Low ($0 \leq 60\%$)	High ($>60\%$)
Hostility	16 items (16-48)	16-35.1	35.2-48
Criticism	14 items (14-42)	14-30.7	30.8-42
Over involvement	10 items (10-30)	10-21.9	22-30
Total	40 items (40-120)	40-87.9	88-120

Validity and reliability: The content validity was assured by a group of expertise in the field of psychiatric mental health nursing who reviewed the content of the tools for their comprehensiveness, accuracy, clarity, and relevance. The internal consistency of the instruments was measured using Cronbach's alpha, yielding coefficients of 0.872 for the knowledge assessment tool and 0.87 for the Expressed Emotion Scale. These results demonstrate that the instruments were highly reliable and consistently measured the intended constructs.

Pilot study

The Pilot study was carried out for 10% (5) of the sample. Subjects who shared in the pilot study weren't excluded from the main study sample.

Fieldwork

data collection conducted from 20th January 2024 to 28th June 2024, sessions held twice weekly (Saturday & Tuesday) three groups for every day, the researcher attended at 9 am to 12pm. Before conducting the program, caregivers were briefed on the study's objectives and aim, and written

informed consent was obtained. Participation was entirely voluntary, with assurances that caregivers could withdraw from the study at any point without any negative consequences. Selection bias was reduced by enrolling participants who accurately reflected the characteristics of the target caregiver and by implementing consistent inclusion criteria for all participants. The questionnaire was filled in by family caregiver or the researchers according to educational level. Completion of the questionnaire typically required 30–45 minutes during the first session.

The researcher developed nursing intervention program for enhancing expressed emotion of the family caregivers in simple Arabic based on the caregivers needs, by determining objectives, preparing the necessary materials, methods and media. The intervention consisted of ten structured sessions, each lasting approximately 45- 60 minutes.

Nursing Intervention Program Sessions

The nursing intervention program consisted of ten structured sessions, designed to enhance caregivers' knowledge and improve expressed emotion. Each session lasted approximately 30–45 minutes and included lectures, discussions, and practical exercises.

Session 1 – Acquaintance Session: The researcher introduced the program objectives, clarified the meeting location and schedule (twice weekly per group), and administered the pre-assessment tool.

Session 2 – Overview of Substance Use Disorder: Caregivers received information on the definition, signs and symptoms, risk factors, consequences, and treatment modalities of substance use disorders. The session included a PowerPoint lecture, handouts, and interactive discussion where caregivers could ask questions and share perspectives.

Session 3 – Expressed Emotion: Caregivers explored the concept and components of expressed emotion, reflecting on and discussing their own emotional responses toward the patient. The caregivers share their experiences by self-disclosure and home assignment.

Session 4 – Nonviolent Communication: Observation: Participants learned the principles of nonviolent communication, focusing on observing and describing behaviors without judgment. Instruction was provided via PowerPoint and handouts fill the worksheet.

Session 5 – Nonviolent Communication: Feelings, Needs, and Requests: Caregivers practiced expressing feelings, identifying personal needs, and articulating requests clearly. The session included self-disclosure exercises and a take-home assignment for continued reflection.

Session 6 – Triggers of Anger: Caregivers distinguished between anger and hostility, identified individual anger triggers, and discussed strategies for positive anger management.

Sessions 7 and 8 – Stress Management: These sessions aimed to equip caregivers with stress management skills to enhance emotional regulation and coping abilities. The program included meditation, deep breathing, and progressive muscle relaxation exercises to facilitate relaxation and reduce stress. The researcher provided demonstrations using PowerPoint slides, videos, and handouts, and caregivers subsequently practiced and re-demonstrated the techniques to ensure correct understanding and application.

Session 9 – Problem-Solving Skills: Caregivers learned a stepwise approach to problem-solving, engaged in brainstorming and discussion, and completed worksheets and home assignments to reinforce learning.

Session 10 – Evaluation Session: The final session summarized program objectives, allowed caregivers to reflect on their progress, and included post-test administration of the data collection tools

After conducting the intervention, the researcher thanked the caregivers for their participation in the study and completion of the post-test. The evaluation of the intervention done after its implementation of the program through applying the same tool.

Ethical consideration

The study was approved by the Scientific Research Ethics Committee at the Faculty Nursing, Ain Shams University with code of ethics 25.04.626. A written official letter from the Ethics Committee of the General Secretariat for Mental Health to conduct the research.

The study adhered to the principles of the Declaration of Helsinki, ensuring participants' autonomy, confidentiality, and voluntary participation. Individual informed consent was obtained from each of the studied caregivers. The researcher provides explanation of the objectives of the study and its expected outcomes to the studied caregivers. The anonymity and confidentiality of the studied caregivers were assured, and the collected data were treated with strict confidentiality and exclusively utilized for purposes of the research.

Data Analysis

The collected data were organized, tabulated, and analyzed using SPSS version 20. The statistical analysis for quantitative variables include Percentages (%), mean, and standard deviation (SD) were used, Qui square to assess relationships between variables, Paired sample t. test (t) to identify the significance in the group before and after the implementation of the program and Significant level values were considered Probability (P-value <0.05 was considered significant, P-value <0.001 was considered as highly significant and P-value >0.05 was considered insignificant, Pearson's correlation coefficient (r) test was used to assess the degree of association variables.

Results:

Table (1): explained that 60.0% of the patients at age group from 50 years old and more, with a mean age 52.36 ± 9.891 . Regarding the patient, 42.2% were mothers. As regards educational level and occupation 40.0% & 64.4% of them finished secondary education and were working respectively. Regarding monthly income and marital status, 73.3% & 62.2% of them had inadequate monthly income and were married respectively. Also, 95.6% & 60% of them were forced to pay for their patients and suffer from diseases respectively.

Figure (1): displayed that the nursing intervention program had a positive effect on the family caregivers' knowledge regarding substance use disorders. 73.3% of the studied family caregivers had unsatisfactory knowledge level pre-intervention, while post-intervention 86.7% of them had satisfactory knowledge level, which indicates improvement in substance use disorders knowledge among the studied family caregivers.

Table (2): showed that, following the implementation of nursing intervention, highly statistically significant improvement found in domains of expressed emotions (criticism, hostility, and emotional over-involvement) as evidenced by a p-value=0.000.

Figure (2): Indicated that the nursing intervention program had a positive effect on the family caregivers' expressed emotion. Prior to the intervention, 77.8% of caregivers exhibited high hostility, which declined to 31.1% post-intervention. Similarly, the proportion of caregivers showing high criticism decreased from 73.3% to 33.3%, and those with high emotional over-involvement dropped from 75.6% to 28.9%. Overall, hostility, criticism, and over-involvement were significantly reduced, reflecting healthier emotional responses and improved relational boundaries among family caregivers.

Table (3): showed a negative correlation between total knowledge of the studied caregivers and their expressed emotion post-intervention in which $r = -.114$ at $p \text{ value} = .037$.

Discussion

Concerning family caregivers' socio-demographic characteristics, the present study displayed that more than half of them were in the age group from 50 years old and more, with mean age 52.36 ± 9.891 , slightly less than three quarters of them were parents (mothers/fathers) for those patients and more than half of them were married. These because of parents especially mothers are most caring member in the family especially in our Egyptian culture where women have high sense of responsibility toward their families, additionally, middle-aged couples tend to maintain cohesion of the family and their attention is more toward fulfill the family requirements rather than their satisfaction about their relation.

This finding was in line with Selçuk et al. (2022), who indicated that more than half of the caregivers were mothers of the patients, and one quarter of them were fathers, and the mean age of the caregivers was 43.01 ± 10.50 . Also, this finding agreed with Mohamed and sayed (2022) who stated that the majority of caregivers under the study were mostly mother. This finding has the support by Gamal et al. (2023) who illustrated that less than three quarters of the studied caregivers were married. Additionally, this finding is supported by Bölüktaş (2021) who found that the mean age of caregivers is 47.5 years. On the other hand, this finding was contradicted with Abdelrehim et al. (2022) who revealed that male's caregiver in the study more were than half.

In relation to educational level, occupation, and monthly income, two fifths of the studied caregivers finished secondary education, more than half of them were worked and nearly three quarters of them had inadequate monthly income. This finding may explain the financial burden on the caregiver and the financial standard of patients who are receiving treatment at El-Abbasia hospital as a governmental hospital that offers affordable services cost. This result goes on the same line with Sabeena and Agnes (2024) who concluded that more than half of the caregivers were studied up to high school. While Mohamed and sayed (2022) displayed that nearly half of the studied caregivers can read and write and most of them suffered from inadequate financial resources. Also, this consistent with Gamal et al. (2023) who explained that fewer than three quarters of the studied family caregivers were employed.

Additionally, the present study clarified that most caregivers were forced to pay for the patient. This finding may be due to loss of financial resources and the jobs of patients due to frequent relapses and being hospitalized for intoxication and some of the patients didn't have medical insurance. These results is in line with Abdelrehim et al. (2022) who displayed that the majority

of family caregivers experienced financial difficulties, especially with low economic resources families.

In relation to caregiver's diseases more than half of them suffered from medical diseases. This finding may be related to over stress and burden that may be risk factors in numerous diseases such as diabetes and hypertension. This finding is in harmony with Mohammed (2016) who found that more than half of the relatives of the addicted patients suffered from diseases also became tired physically and psychologically from their patient's.

Regarding total substance use disorders knowledge, less than three quarters of the studied caregivers had unsatisfactory knowledge about SUDs pre-intervention. However, following the nursing intervention, most of them demonstrated satisfactory knowledge level, highlighting a significant improvement. This finding is probably because of the program design and its content was of interest and the need of the caregivers by using suitable teaching strategies. This finding aligns with Sampogna et al. (2023) emphasizing the importance of educational interventions in enhancing caregivers' understanding of substance use disorder and its management. Also, this result agreed with Monari et al. (2024) who assumed the significance of awareness among family members in recognizing signs and symptoms of SUDs and early detection and interventions.

As regards expressed emotions, highly statistically significant improvement found in all domains of expressed emotions (criticism, hostility, and emotional over-involvement) post implementation of nursing intervention program, as pre-intervention more than three quarters of caregivers had high hostility, which decreased significantly to less than one third post-intervention. About three quarters of them had high criticism before the intervention but dropped to one third post-intervention. Also, more than three quarters of them had high over-involvement pre-intervention but decreased to more than one quarter post-intervention. Concisely, Hostility, criticism, and over-involvement significantly decreased, indicating enhanced emotional responses and boundaries.

Correspondingly, a study conducted by Zaki and Ezz El-Din Prince (2021) indicated that psychosocial nursing intervention has been found to improve hostility domain as slightly more than three quarters had high hostility. Also, this result is in line with Mohamed et al. (2024) who clarified that the pre-test and post-test criticism scores was a statistically significant different. Additionally, this result is in line with Kochumon et al. (2024) who clarified that the mean scores of EOI subscales before and after the program are varied significantly.

Generally, this result was agreed with Hanna et al. (2023) who affirmed that the management program had a positive impact on caregivers of substance abusers. Additionally, Mohamed et al. (2024) stated that by application of the psycho-educational intervention into practice, family caregivers' EE level significantly improved and the burden of patient care decreased.

In addition to Kochumon et al. (2024) reported that it was seen that slightly more than three quarters of caregivers had high level of expressed emotion prior to the intervention. EE Post-test score showed that the percentage of high EE was about one quarter which clarified that significant difference between before and after the intervention of the psycho-education program and it's an effective tool in reducing expressed emotion of caregivers of mental disorders patients.

Conclusion

The nursing intervention program significantly improved family caregivers' knowledge and reduced expressed emotions, including hostility, criticism, and emotional over-involvement. This highlights the critical role of targeted educational and emotional support programs in enhancing caregivers' capacity to manage patients with substance use disorders effectively.

Acknowledgments

We express our gratitude to all the all caregivers participated in the current study.

Funding sources

The authors received no financial support to conduct the research.

Availability of Data and materials

The data presented in this study are available on request from the corresponding author.

Author contributions

The study design, conceptualization, methodology, tool preparation, and sessions plan were conducted by GMM, FMI, and AA. AA acquired resources, implemented the intervention, collected and analyzed data, & wrote manuscript under GMM, & FMI supervision. All the authors read and approved the final manuscript.

Conflict of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Limitations

A number of five caregivers withdrawn from the study and to maintain the intended sample size and research integrity, these caregivers were replaced with new family caregivers who met all inclusion criteria.

Five patients discharged from hospital and attending day care sessions. The researcher adjusted the timing and location of the educational sessions to fulfill program session to facilitate full participation of caregivers despite these clinical transitions.

References:

- Abdelrehim MG, El-Shahat H, Abd El-Salam F, Khalifa A, Morsy FI. A path analysis model examining factors affecting the caregiving burden experienced by the family caregivers of drug addicts in Egypt. *J Res Health Sci.* 2022;22(3):e00554. doi:10.34172/jrhs.2022.89. Available from: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10422150/>
- Bölüktaş RP. Caregiving burden of family caregivers of substance-addicted people in Turkey. *Perspect Psychiatr Care.* 2021. doi:10.1111/ppc.12974
- Essam Ahmed H, Abd El-Ghany R, El-Nemr N, El-Sayed D. Effect of Family Caregiver Expressed Emotion Control Program on Relapse among Patients with Schizophrenia. *J Nurs Sci Benha Univ.* 2022;3(1):855–872. doi:10.21608/jnsbu.2022.215658
- Fahrer J, Kuppens S, Van den Noortgate W, Vanaelst B, Bastiaansen A. Expressed emotion in the family: a meta-analytic review of expressed emotion as a mechanism of the transgenerational transmission of mental disorders. *Front Psychiatry.* 2022;12:721796. doi:10.3389/fpsy.2021.721796

- Gamal Elsayed E, Abdel-Hamid Zaki R, Mohammed Ibrahim F. Relationship between burden and self-efficacy among family caregivers of patients with substance use disorders. *Egypt J Health Care*. 2023;14(4):296–312. doi:10.21608/ejhc.2023.326604
- Hanna MW, El Malky ME, Zaki MM. Effect of Expressed Emotion Management Program on Self Control and Social Adjustment among Substance Abusers. *Benha J Appl Sci*. 2023;8(4):157–166. doi:10.21608/bjas.2023.194818.1081
- Hogue A, Becker SJ, Wenzel K, Henderson CE, Bobek M, Levy S, Fishman M. Family involvement in treatment and recovery for substance use disorders among transition-age youth: Research bedrocks and opportunities. *J Subst Abuse Treat*. 2021;129:108402. doi:10.1016/j.jsat.2021.108402
- Kochumon R, Sanil M, Saleem TK, Tharayil HM. Effect of Psychoeducation on Expressed Emotion among Caregivers of Patients with Mental Disorders. *Indian J Private Psychiatry*. 2024;18(2):57–60. doi:10.5005/jp-journals-10067-0176
- Maina G, Ogenchuk M, Phaneuf T, Kwame A. “I can’t live like that”: the experience of caregiver stress of caring for a relative with substance use disorder. *Subst Abuse Treat Prev Policy*. 2021;16:1–9. doi:10.1186/s13011-021-00344-3
- Mohammed ME. Expressed Emotions among Families having Patient with Drug Addiction, at Ain Shams University. [Master’s thesis]. Cairo: Ain Shams University; 2016. p.146–150.
- Mohamed SS, Abdo N, El-Hamaky N, Abd El-Rahman H. Psycho-educational program to enhance expressed emotion and reduce burden of care among family caregivers of patients with polysubstance abuse. *J Psychiatr Nurs (Psikiyatri Hemsireleri Dernegi)*. 2024;15(4). doi:10.14744/phd.2024.09086
- Mohamed Ali N, Sayed Mohamed H. Minimizing burdens and enhancing quality of life among family caregivers of patients with substance misuse disorders. *Egypt J Health Care*. 2022;13(1):502–516. doi:10.21608/ejhc.2022.219054
- Mohammed Ibrahim F, Abd-Elhameed Loutfi Z, Mohamed Mourad G. Psychosocial nursing intervention for improving quality of life of patient with multiple sclerosis. *Egypt J Health Care*. 2016;7(3):146–161. doi:10.21608/ejhc.2016.54601
- Monari EN, Haavik H, Farsang H, Korhonen M. Experience of family members of relatives with substance use disorders: An integrative literature review. *Creat Nurs*. 2024;30(3):232–244. doi:10.1177/10784535241252169
- Movaghar A, Amini F, Farid M, Zare M, Ramezani M. Machine learning approach to measurement of criticism: The core dimension of expressed emotion. *J Fam Psychol*. 2021;35(7):1007. doi:10.1037/fam0000906
- Ólafsdóttir J, Sigurðardóttir J, Bjarnason G, Halldorsdóttir S. Psychosocial distress, physical illness, and social behaviour of close relatives to people with substance use disorders. *J Soc Work Pract Addict*. 2020;20(2):136–154. doi:10.1080/1533256X.2020.1749363
- Patil S, Ahamed T, Killelli N, Kundaragi U. Quality of life among the family members of patients with substance abuse residing in rural areas. *J ReAttach Ther Dev Divers*. 2023;6(6s):920–924. doi:10.53555/jrtd.v6i6s.2721

- Sabeena MTP, Agnes EJ. Quality of Life and Expressed Emotion in Caregivers of Patients with Psychiatric Disorders. *J Health Allied Sci NU*. 2024;14(2):243–247. doi:10.1055/s-0043-1769578
- Sampogna G, Fiorillo A, Luciano M, et al. Psychosocial interventions for carers of people with severe mental and substance use disorders: a systematic review and meta-analysis. *Eur Psychiatry*. 2023;66(1):e98. doi:10.1192/j.eurpsy.2023.2472
- Selçuk M, Şenol E, Yılmaz M, et al. Predictors of caregiver burden in family caregivers of male patients with opioid use disorders. *Psychiatry Clin Psychopharmacol*. 2022;32(1):54. doi:10.5152/pcp.2022.21268
- Volkow ND, Blanco C. Substance use disorders: a comprehensive update of classification, epidemiology, neurobiology, clinical aspects, treatment and prevention. *World Psychiatry*. 2023;22(2):203–229. doi:10.1002/wps.21073
- Wanjiru NW, Muthami J, Shanyisha W. Effects of relative's substance use disorder on family psychological wellbeing: Mathari Rehabilitation Centre Nairobi, Kenya. *J Res Innov Implic Educ*. 2022;6:408–419.
- Wearden AJ, Tarrier N, Barrowclough C, Zastowny TR, Rahill AA. A review of expressed emotion research in health care. *Clin Psychol Rev*. 2000;20(5):633–666. doi:10.1016/S0272-7358(99)00008-2
- Zaki A, Ezz El-Din Prince H. Effect of Psychosocial Nursing Intervention on Expressed Emotions and Responses to the Patient Illness among Family Caregivers of Patients with Bipolar Disorder. *Egypt J Health Care*. 2021;12(4):1646–1660. doi:10.21608/ejhc.2021.217545
- Wanjiru, N.W., Muthami, J. and Shanyisha, W. (2022) 'Effects of relative's substance use disorder on family psychological wellbeing: Mathari Rehabilitation Centre Nairobi, Kenya', *J. Res. Innov. Implicat. Educ*, 6, pp. 408–419.
- Wearden, A.J., et al. (2000) A review of expressed emotion research in health care. *Clinical psychology review*, 20(5), pp.633-666. DOI: [https://doi.org/10.1016/S0272-7358\(99\)00008-2](https://doi.org/10.1016/S0272-7358(99)00008-2)
- Zaki, A. and Ezz El-Din Prince, H. (2021) 'Effect of Psychosocial Nursing Intervention on Expressed Emotions and Responses to the Patient Illness among Family Caregivers of Patients with Bipolar Disorder', *Egyptian Journal of Health Care*, 12(4), pp. 1646–1660. DOI: 10.21608/ejhc.2021.217545

Table (1): Socio-demographic characteristics of the studied family caregivers (n=45).

Items	No.	%
Age (year)		
20 ≤ 30	1	2.2
30 ≤ 40	3	6.7
40 ≤ 50	14	31.1
50 +	27	60.0
Mean ± SD	52.36± 9.891	
Relative relation		
Mother	19	42.2
Father	13	28.9
Husband	1	2.2
Wife	2	4.4
Brother	9	20.0

Items	No.	%
Sex		
Sister	1	2.2
Male	23	51.2
Female	22	48.8
Educational level		
Illiterate	8	17.8
Read and write	2	4.4
Primary	6	13.3
Secondary	18	40.0
University	11	24.4
Occupation		
Worked	29	64.4
Not working	0	0.0
Retired	9	20.0
Housewife	7	15.6
Monthly income		
Adequate	12	26.7
Inadequate	33	73.3
Marital status		
Married	28	62.2
Divorced	5	11.1
Single	1	2.2
Widow	11	24.4
Paying the costs of patient's treatment		
Yes	43	95.6
No	2	4.4
Suffering from any diseases		
Yes	27	60.0
No	18	40.0
If yes, specify the disease*		
Diabetes Mellitus	16	59.3
Hypertension	10	37
Liver disease	3	11.1
Heart diseases	5	18.5
Hyperthyroidism	2	7.4
Osteoarthritis	2	7.4

*Numbers are not mutually exclusive.

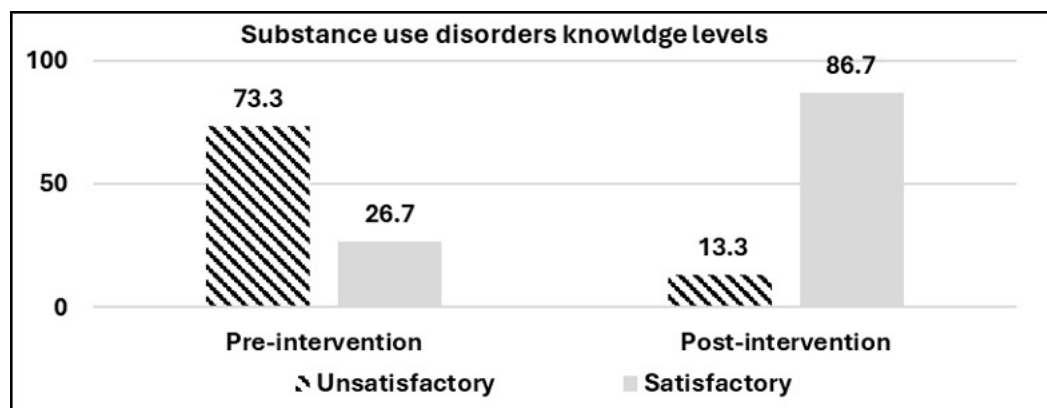


Figure (1): The studied family caregivers' knowledge level regarding substance use disorders pre- and post- intervention (n=45).

Table (2): Comparison between pre- and post- intervention Mean scores regarding domain of expressed emotions.

Expressed emotions Domains	Pre-intervention		Post-intervention		t test	p value
	Mean	SD	Mean	SD		
Hostility domain	36.00	2.82	21.71	2.38	24.61	.000
Criticism	31.17	3.21	18.11	2.00	21.53	.000
Emotional over involvement	23.73	2.40	15.06	2.31	17.14	.000

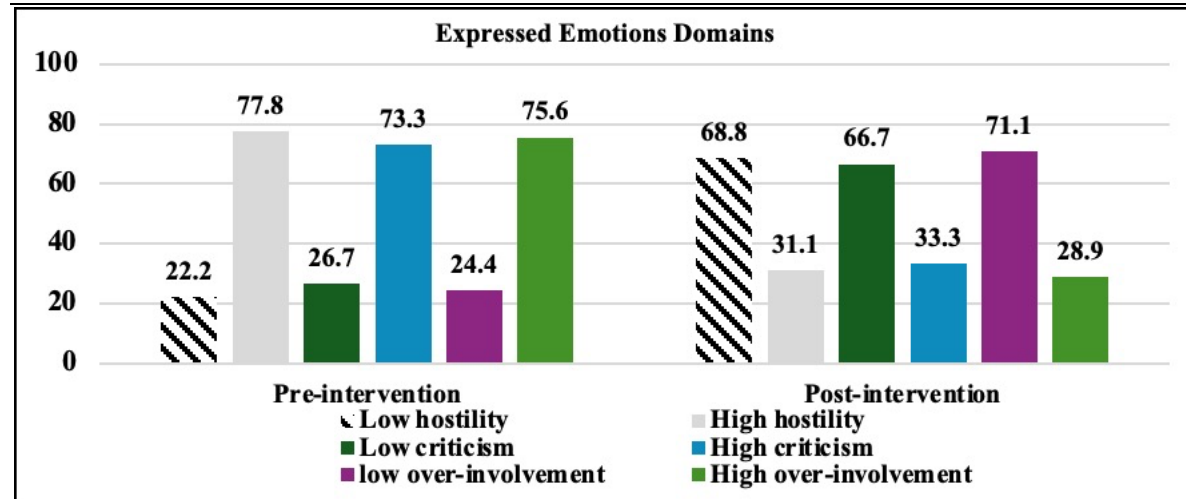


Figure (2): Distribution of the studied family caregivers according to expressed emotions domains levels pre- and post- intervention (n=45).

Table (3): Correlation between total knowledge and expressed emotion post-intervention (n=45).

The studied Variables	Expressed emotion	
Knowledge	r test	-.114
	p value	.037*

S= statistically significant at $p \leq 0.05$