

Effectiveness of Psychoeducational Program for Self-management Strategies to Cope among Patients with Depression

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Abstract

Background: Patients with major depressive disorder experience many difficulties and need strategies to enhance adherence, cope with a chronic condition, and maintain a positive mental status which must address issues in training and patient education. **Aim:** The study aim was to examine the effectiveness of the psychoeducational program for self-management strategies to cope among patients with depression. **Methods:** A quasi-experimental design (one group pre/post-test) was used in the current study. It was carried out in the Outpatient Department at Psychiatric Hospital in Beni-Suef Governorate, Egypt. A purposive sample of sixty psychiatric patients medically diagnosed with the major depressive disorder was recruited in this study. **Tools:** consisted of four parts: Clinical and socio-demographic characteristics sheet, Self-rating depression scale (SDS), Self-management strategies, and The COPE inventory. **Results:** The findings of this study verified that statistically significant relation pre/post and pre/follow-up observations in self-rating depression scale, self-management strategies for people with depression, and the 15-scales of the coping inventory and statistically significant relation between post and follow-up observations in self-management strategies for people with depression and the 15 scales of the COPE inventory ($p \leq 0.01$ and $p \leq 0.05$). **Conclusion:** The results demonstrated that, the psycho-educational program is effective in promoting positive self-cope strategies for patients with depression. **Recommendations:** Nurses in psychiatric organizations, along with other healthcare members, should help patients develop, and use more self-management techniques and coping strategies.

Keywords: Psycho-educational Program, Self-management Strategies, Cope, Depression.

Introduction

Mental disorders inflict a tremendous burden on communities everywhere (World Health Organization, 2020). Depression and schizophrenia account for the most tremendous strain, with the most serious mental health-related negative consequences. Depression is considered a very common illness worldwide (Lim et al., 2018).

Depression disorder is essentially distinguished by low mood, loss of interest, sometimes feelings of low self-respect or guilt, disturbance in sleep or appetite, poor concentration, and fatigue. It is a widespread mental disorder that distracts the quality of life among patients with depression (El-Gilany et al., 2018). Treatment of Major Depressive Disorder (MDD) is especially demanding because around one-third of patients report constant residual symptoms of depression (Eggart, Queri, & Muller-Oerlinghausen, 2019).

Depression is associated with poor health behavior in addition to treatment adherence, among significant issues linked to depression management, poor medication adherence, as anxiety and depression are related to poor treatment adherence in medical diseases (Sassen, 2018). Incorporated strategies are necessary to control depression as a chronic disorder whereas intensifying well-being to moderate the burden on health systems, self-management is an essential approach (Reynolds et al., 2020).

The concept of self-management has been applied in a multiplicity fields health related. It incorporates different aspects, such as medication adherence, change in lifestyle, and social support. Self-management offers depressive patients' other options that help them maintaining stability while decreasing the risk of mental deterioration (Liu et al., 2020). Self-care has been exhibited to be effectual among persons with chronic depression.

Studies conveyed positive health outcomes with proper self-management (Hagerty & Bathish, 2018), and in depressed patients with comorbid chronic diseases (Kidd et al., 2017).

Non medication adherence is a compound-factored occurrence including trepidations about fear of addiction, side effects, cultural issues, lack of sufficient education, and follow-up (Ho et al., 2017). Consequently, strategies to promote adherence, coping with a current chronic condition, and maintaining a positive mental status should address issues in training and patient education (Dell'Osso et al., 2020).

Significance of the Study

Depression is one of the highest prevalent mental disorders, responsible for an enormous burden in terms of personal suffering, consequences for relatives and societal costs (Vos et al., 2015). In Egypt, depression is deemed the third cause for years spent living with a disability. At its severest, depression can motivate committing suicide (James et al., 2018). Patients, family, caregivers, health professionals and policymakers are hunting cost-effective ways to accelerate recovery, improve performance and diminish healthcare liability (Basu et al., 2015). One of the newest possibilities for doing this is the presentation of self-care strategies, which have progressively become a priority in today's method to improving mental health (Kemp, 2011).

Self-management program should integrate characteristics of both patient education to improve knowledge of their disorder, the health care system, and resources available to them, and to involve theoretically based problem solving and decision-making skills training. Also, it designed to increase patient knowledge about their illness (medical management) and to promote positive adaptation and coping abilities as emotional and role management (McCorkle et al., 2011). Hence, the present study is conducted to shade light on the effectiveness of the psycho-educational program for self-coping strategies among patients with depression. Additionally, it is hoped that this study might help patients with depression to use self-

management methods to deal with their depressive symptoms. The reason for carrying out this study is increasing numbers of suicide in the last period and lacking studies done in our country about examining the effectiveness of the psycho-educational program self-management strategies to cope among patients with depression.

Aims of the study

The current study aim was to examine the effectiveness of the psychoeducational program for self-management strategies to cope among patients with depression.

Theoretical Definitions

Self-management Strategies entail patients being experts in their course of improving wellbeing and revival, including managing symptoms, working out psychosocial concerns and changes in lifestyle integrated in the presence of a chronic disease. Effective self-management contains ability to monitor one's condition and to accomplish the behavioral, cognitive, and emotional reactions necessary to provide a pleasurable quality of life (Cuthbert et al., 2018; and Omisakin, & Ncama, 2011).

Coping has been defined as any behavioral and/or cognitive attempts to minimize, manage, or tolerate events that people perceive as potentially threatening to their well-being. It does not imply success in dealing with situations, the responses to stressors can also be maladaptive (Tesfaye, 2018).

Depression is a mood disorder that causes a constant feeling of sadness and loss of interest. Also, it affects how individual think, act, and feel and can lead to a variety of physical and emotional problems. Person may have trouble doing in normal daily interests, and occasionally individual may feel as if life isn't worth living. (Bruce, & Casarella, 2020).

Operational Definitions:

Self-management Strategies are to empower and enable patients to accomplish optimal health in the condition of living with a

chronic disease. At the core of self-management is the active contribution of patients in their personal care, the capability to problem solves, self-monitor, and shared decision-making with health care teams. This will be measured by Self-management Strategies (van Grieken et al., 2013).

Cope has been defined as any behavioral and/or cognitive tries to minimize, manage, or tolerate events that people perceive as potentially threatening to their well-being by using four dimensions: 1) Problem-focused coping approaches are problem-solving methods. These strategies encompass attempts to describe the problem, weigh the costs, create alternative resolutions, and benefits of several actions, take actions to alter what is modifiable, and, if necessary, learn new skills. 2) Emotion-focused coping strategies are produced to reduce expressive distress. These strategies include attempts like selective attention, avoiding, blaming, distancing, exercising, minimizing, seeking social support, wishful thinking, and meditating. 3) Less useful through a venting emotion, and focus on, mental disengagement and behavioral disengagement; 4) Recently developed through substance use and humor. Emotion-focused coping is the more common form of coping used when events are not change able. This will be measured by The COPE Inventory (Litman, 2006).

Depression is a mood disorder that causes a persistent feeling of gloom and loss of interest. Also, it alters how person act, feel, and think and can lead to a diversity of physical and emotional difficulties. This will be measured by Self-rating Depression Scale (SDS) (William, Zung, and Durham, 1965).

Research Hypothesis:

Patients who will participate in the psychoeducational program will use positive self-coping strategies dealing with their depression.

Subjects and Methods

Research Design:

A quasi-experimental design (one group pre/post-test) was employed to attain the aim of this study.

Setting:

The current study was carried out in the outpatient clinic of Psychiatry and Mental Health Department at Beni-Suef General Hospital (PMHD-BGH). The PMHD-BGH is a Governorate hospital under the care of the Ministry of Health. Mental health services are provided free of charge everyone. Services are provided by a multidisciplinary team.

Sample:

A purposive sample consisted of 60 patients with major depression was selected during follow-up visits to the previously mentioned setting and meets the inclusion criteria during the study period.

Inclusion criteria: Psychiatric patients diagnosed with major depressive disorder, have mild to moderate degree of depression and willing to participate in the study, can communicate in a relevant and coherent manner and attending follow up visits at out-patient psychiatric clinic.

Exclusion Criteria: All patients with organic brain syndrome, mental retardation, communication difficulties, substance abuse problems, neurological disorders and/or comorbid schizophrenia or bipolar disorder.

Sample size:

The current study was conducted on patients (n=60) with major depression disorder who received follow up care at the psychiatric outpatient clinic for five successive months. Total annual admissions for depression in 2019 at the psychiatric outpatient clinic were 499 depressed patients. The selection of the sample size was done using the formula:

$$n = \frac{t^2 \times P(1 - P)}{m^2}$$

N= 60 patients with depression.

Description of formula:

N= required sample size

t= confidence level at 95 % (standard value of 1.960)

Confidence interval 12

p= estimated prevalence of depression

m= margin of error at 5 % (standard value of 0.050)

Tools of data collection: One constructed interview sheet, which contains of four parts were used to achieve the aim of the study

First part: Clinical and socio-demographic characteristics sheet: It was constructed by researchers after reviewing literature it includes:

A- Socio-demographic data: to elicited data about the patient, as age, sex, level of education, occupation, status, socioeconomic status ... etc.

B- Clinical data: which includes patient's diagnosis, number of previous hospitalizations ... etc.

Second part: Self-rating Depression Scale (SDS): It was adopted from William, Zung, and Durham (1965). It consists of 20 self-reporting items, a 4-points Likert scale to assess depression as reported by patients. Each item score ranges from (1= a little of the time, 4= to most of the time). Items from 1 to 10 are reverse-scored items. The minimum and maximum scores range from 20 to 80 with higher scores indicate severe depression.

Third part: Self-management Strategies: It was adopted by van Grieken et al. (2013). It consists of 50 self-reporting items to assess the use of self-care, management strategies and helpfulness as perceived by patients. Each item score ranges from (0= non-useful, 1= useful). The minimum and maximum scores range from 0 to 50 with higher scores indicate more self-management strategies used.

Fourth part: The COPE Inventory: It was adopted from Litman (2006) as a short version of the original 60-item coping scale by Carver,

Scheier, and Weintraub (1989) and the 28-item coping scale by Carver (1997). It consists of 15 self-reporting items, a four-point scale that assesses a variety of coping strategies using four dimensions: 1) Problem-focused through planning, active-coping, suppression of competing activities, restraint-coping, and instrumental social support; 2) Emotion-focused through turning to religion, acceptance, positive reinterpretation, denial, and emotional social support; 3) Less useful through a focus on and venting emotions, mental disengagement, and behavioral disengagement; 4) Recently developed through substance use and humor. Each coping strategy score ranges from (1= usually do not do this at all, and 4= usually do this a lot). The minimum and maximum scores range from 15 to 60 with higher scores indicate better coping.

Content validity/reliability:

Researchers tested the content validity of the tool before starting the data collecting. Tools were translated into Arabic and verified for their content. It was done by a jury of five experts in psychiatric nursing and medical professions, to establish the relevance and comprehensiveness of the items and the necessary modifications were carried out consequently. In addition, the period needed to fill in the questionnaire was estimated. Reliability was measured using Cronbach's alpha coefficient test that showed relatively homogenous items. The internal consistency of self-rating depression scale, self-management strategies, and COPE inventory was 0.79, 0.78, and 0.81 respectively.

Ethical Considerations:

After the approval to carry out this study, the purpose of the present study was explained to every contributed patient with major depression. Patients had the right to refuse contribution to the study, verbal permission gained from uneducated patients and written consent was acquired from educated patients, each participant was aware that the collected information would be used only for the aim of the current study. They were guaranteed confidentiality, anonymity, and danger-free

participation. As well, each participating patient had the right to quit the study at any time with no need to give any rationale.

Pilot Study:

It was done to calculate the clarity and relevance of the questionnaire, also the required time to fill each. Pilot study was conducted on a 6-patients sample; pilot study sample was omitted from final study sample. According to its results, no modification was made.

Field of Work

Official letter was issued from Faculty of Nursing's Dean and submitted to director of PMHD-BGH for agreement to conduct the study. Data collection process consumed five months from March to July 2020.

1. Assessment phase: After a full explanation of the aim of the study, researchers distributed data collection tools on an individual basis as baseline assessment. Researchers assisted patients with difficulty filling the required tools. The fieldwork included the patients, undergoing outpatient clinic of psychiatry in Beni-Suef Hospital they consisted of 60 patients. The patients were distributed into twelfth groups each group consisted of 5 patients. First, the researchers collected all patients to be acquainted with them, explained to them the aims of the program and its expected outcomes, and they filled in the questionnaire (pretest), each interview consumed between 15 to 30 minutes depending on surrounding circumstances.

2. Preparation phase: Researchers used results obtained from patients' records, observation, and interviewing, and after conducting a thorough review of literature, they developed a comprehensive training program. It was employed after the initial data collection. The program contained a booklet that was designed to meet different patients' requirements and taking into consideration their level of understanding and interests. They consisted of different coping elements techniques that are

used to alleviate depression and enhance self-coping strategies. Considering methods of education, all patients applied the same training techniques, with same contents that included: Lectures, discussions, demonstration, and redemonstration. Teaching materials included handouts, videos, figures, and slides.

3. Implementation phase: Nursing intervention program was implemented through 14 sessions, scheduled as 2 sessions per week for a duration of 8 weeks for each group. Researchers visited PMHD-BGH from 9 a.m. to 2 p.m. Saturday and Monday every week during data collection period. Each session consumed 45 to 60 minutes. Psycho-educational program sessions included:

First session: Welcoming session, the first encounter between researchers and participants that emphasizes the endorsement between group members (5 patients). After identification, researchers presented the program introduction and an interpretation of program objectives including significance of self-coping strategies.

Second session: Patients and the caregivers training took place, the use of self-coping techniques helping with depression related problems such as pain, fatigue, frustration, and isolation.

Third session: Instruct patients to appropriate use of medications as prescribed.

Fourth session: Communicating effectively with family, and friends to deal with depression.

Fifth session: Researchers encouraged and assisted patients to do physical exercises along with stimulating music and moving clips. Also, appropriate exercises for maintaining and improving flexibility, strength, and endurance.

Sixth session: Instruct patients to use better breathing techniques.

Seventh session: Support patients to concentrate while performing different exercises and relaxation techniques using video clips and photos to help decrease anxiety and contribute

to the use of positive self-coping strategies for depression.

Eighth session: Educate patients and caregivers about healthy eating habits.

Ninth session: Teach patients and caregivers making good decisions about their health to deal with their depressive symptoms by using problem solving techniques.

Tenth session: Train patients about hope for the future by get meaning of live such as helping others and doing positive things to gain positive energy.

Eleventh session: Instruct patients and caregivers to reestablish a positive identity and energy.

Twelfth session: Establishment of personal meaningful goals and taking responsibility for one's life.

Thirteenth session: Encourage patients to express their feeling, feeling empowered contributing to community life, and feeling included and connected to others.

Fourteenth session: General program revision and providing opportunity to give program feedback.

4. Evaluation phase: Program evaluation was done using a posttest to evaluate the program functionality, which was the same as the pre-test to evaluate the impact of the program. Three months later, after post-test, the follow-up test was performed using the same tools in orders to assess self-management strategies to cope among patients with depression through comparison of results with pre-post-tests.

Statistical Analysis:

Collected data were categorized, analyzed, classified, coded, and tabulated using the Statistical Package for Social Science (SPSS) version 21. ANOVA and Pearson Correlation tests were to compare studied variables. Statistical significance was considered significant at $p \leq 0.05$ and highly significant at $p \leq 0.01$.

Results

Table (1) presented that 50% of the studied sample are between 25 and 30 years of age, and 60% are males. 56.7% of them had middle education levels and 33.3% of them are divorced. Moreover, 63.3% of the studied sample have between 4 and 8 family members, and 56.7% are living with their families, also 93.3% of them have been hospitalized between once and three times.

Table (2) demonstrated that the mean change with a high statistical significance between the three observations in all study variables ($p \leq 0.01$).

Figure (1) demonstrated that the mean change related to self-rating depression was 50.27 before implementation of the program that changed to 47.87 and 48.87 after the implementation and in follow-up observations among the studied sample respectively. The results presented that mean change related to self-management strategies for patients with depression was 69.00 before implementation of the program that changed to 152.27 and 132.07 after the implementation and in follow-up observations. Also, the finding of the present study displayed that the mean change related to coping strategies among studied subjects was 23.33 before implementation of the program that changed to 40.40 and 36.97 after the implementation and in follow-up observations.

Table (3) represented that a strong highly statistically significant positive correlation between self-management strategies for people with depression in follow-up observation ($p \leq 0.001$).

Table (4) showed that a highly statistically significant strong positive correlation between COPE inventory subscale self-sufficient both problem and emotional-focused and social-support with self-management strategies for people with depression and with COPE inventory subscale socially supported in follow-up ($p \leq 0.001$).

Table (5) revealed that a statistically significant relation pre/post and pre/follow-up

observations in self-rating depression scale, self-management strategies for people with depression, and the 15-scales of the COPE inventory and statistically significant relation between post and

follow-up observations in self-management strategies for people with depression and the 15 scales of the COPE inventory ($p \leq 0.01$ and $p \leq 0.05$).

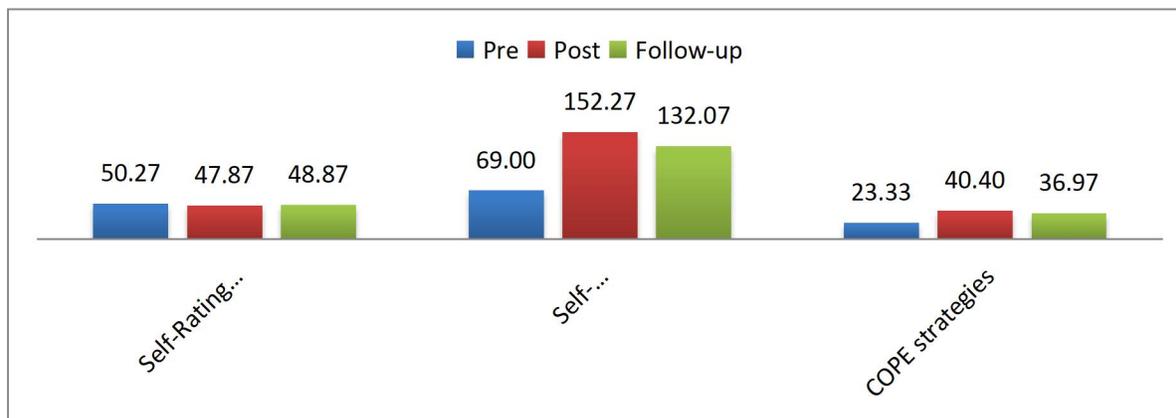
Table 1. Socio-demographic Characteristics among Studied Subjects. (n=60)

| Socio-demographic Characteristics | No. | Percentage |
|--|-----|------------|
| Age | | |
| <25 | 4 | 6.6 |
| 25 – 34 | 30 | 50.0 |
| 35 – 44 | 16 | 26.7 |
| ≥ 45 | 10 | 16.7 |
| Gender | | |
| Male | 36 | 60.0 |
| Female | 24 | 40.0 |
| Education level | | |
| Illiterate | 8 | 13.3 |
| Reads and writes | 10 | 16.7 |
| Middle | 34 | 56.7 |
| University | 8 | 13.3 |
| Occupation | | |
| Work | 16 | 26.7 |
| Not work | 44 | 73.3 |
| Marital Status | | |
| Married | 18 | 30.0 |
| Unmarried | 18 | 30.0 |
| Divorced | 20 | 33.3 |
| Widower | 4 | 6.7 |
| Living with family | | |
| Yes | 34 | 56.7 |
| No | 26 | 43.3 |
| Family members | | |
| < 4 members | 12 | 20.0 |
| 4 – 8 members | 38 | 63.3 |
| ≥ 8 members | 10 | 16.7 |
| Time being sick | | |
| < 4 years | 20 | 33.3 |
| 4 – 8 years | 32 | 53.4 |
| ≥ 8 years | 8 | 13.3 |
| Number of previous hospitalizations | | |
| < 3 times | 56 | 93.3 |
| ≥ 3 times | 4 | 6.7 |

Table 2. Comparison between Total Score of Self-Rating Depression, Self-management Strategies and Coping Strategies among Studied Subjects in Pre, Post and Follow-up. (n=60)

| Study Variables | Pre | | Post | | Follow | | F | Sig. |
|---|-------|-------|--------|-------|--------|------|---------|---------|
| | Mean | SD | Mean | SD | Mean | SD | | |
| Self-Rating Depression Scale | 50.27 | 2.92 | 47.87 | 2.85 | 48.87 | 2.79 | 10.888 | 0.000** |
| Self-management strategies for people with depression | 69.00 | 10.31 | 152.27 | 21.09 | 132.07 | 8.18 | 558.937 | 0.000** |
| The 15 Scales of the COPE Inventory | 23.33 | 2.38 | 40.40 | 5.59 | 36.97 | 4.54 | 258.973 | 0.000** |

F ANOVA test ** Highly statistically significant at $p \leq 0.01$

**Figure 1. Mean change between Pre, Post, and Follow-up in Self-Rating Depression and Self-management Strategies and Coping strategies among Studied Subjects.****Table 3. Correlation between Self-Rating Depression, Self-management Strategies and Coping Strategies among Studied Subjects.**

| Study Variables | Test | Self-Rating Depression Scale | Self-management strategies |
|----------------------------|-----------|------------------------------|----------------------------|
| Self-management strategies | Pre | -0.119 (0.365) | - |
| | Post | 0.146 (0.266) | - |
| | Follow-up | 0.200 (0.126) | - |
| COPE Inventory | Pre | 0.046 (0.729) | 0.173 (0.187) |
| | Post | 0.016 (0.901) | -0.094 (0.474) |
| | Follow-up | 0.217 (0.095) | 0.919 (0.000**) |

Pearson correlation test (significance) ** Highly significant at $p \leq 0.01$

Table 4. Correlation between Self-Rating Depression and Self-Management Strategies with Four Dimensions of Coping Strategies among Studied Subjects.

| Item | Test | Self-Rating Depression Scale | Self-management strategies | COPE Inventory |
|---------------------------------|-----------|------------------------------|----------------------------|-----------------|
| Self-sufficient (Problem-focus) | Pre | 0.301 (0.020*) | -0.299 (0.020*) | 0.218 (0.095) |
| | Post | 0.038 (0.773) | 0.099 (0.453) | 0.931 (0.000**) |
| | Follow-up | 0.109 (0.407) | 0.615 (0.000**) | 0.533 (0.000**) |
| Avoidant-coping | Pre | -0.066 (0.615) | 0.268 (0.038*) | 0.558 (0.000**) |
| | Post | -0.127 (0.335) | -0.107 (0.417) | 0.136 (0.301) |
| | Follow-up | 0.126 (0.336) | 0.196 (0.133) | 0.402 (0.001**) |
| Socially supported | Pre | -0.301 (0.020*) | 0.153 (0.243) | 0.271 (0.036) |
| | Post | -0.049 (0.709) | -0.332 (0.010**) | 0.538 (0.000**) |
| | Follow-up | 0.179 (0.170) | 0.884 (0.000**) | 0.879 (0.000**) |
| Self-sufficient (Emotion-focus) | Pre | 0.249 (0.055) | 0.053 (0.686) | 0.741 (0.000**) |
| | Post | 0.072 (0.585) | -0.096 (0.468) | 0.900 (0.000**) |
| | Follow-up | 0.181 (0.165) | 0.774 (0.000**) | 0.881 (0.000**) |

Pearson correlation test (significance) * Significant at $p \leq 0.05$ ** Highly significant at $p \leq 0.01$

Table 5. Relation between Pre, Post, and Follow-up in Self-Rating Depression and Self-Management Strategies and Coping strategies among Studied Subjects.

| Test | Self-Rating Depression Scale | Self-management strategies | COPE Inventory |
|------------------|------------------------------|----------------------------|-------------------|
| Pre x Post | 4.593 (0.000**) | -27.712 (0.000**) | -21.931 (0.000**) |
| Post x Follow-up | -1.690 (0.052) | 6.977 (0.000**) | 3.722 (0.000**) |
| Pre x Follow-up | 2.707 (0.008**) | -37.427 (0.000**) | -20.756 (0.000**) |

Paired samples t-test (significance) ** Highly significant at $p \leq 0.01$

Discussion

Self-management is concerning patients and helping them gain direct control over their lives and effectively managing their conditions. It has been developed for a medical and psychiatric conditions, self-management programs mostly aim at physical and mental health enhancement (Esfahani, 2020). Former self-management interventions were successful in moving patients from institutional care to community/home-based care. A huge empirical body of research evidence indicates that the establishment of self-management intervention programs together with ordinary care increases progressive outcomes for patients with depression (Lean et al., 2019). Therefore, the purpose of the present study was to examine the effectiveness of the psychoeducational program for self-management strategies to cope among patients with depression.

The present study showed that depression mean scores decreased over the three observations, which indicated a positive effect of the implemented program. This may be our program is more comprehensive and effective for patients with depression. This is in support of the study of Collishaw et al. (2016) who studied the effect of the psychoeducational program in preventing depression in the offspring of parents with depression and revealed that participants showed unexpectedly positive outcomes after combining several protective factors that promoted their resilience. Also, the study of Schuster et al. (2017) explored the effect of blended computer and multimedia-supported psychoeducational interventions on depression and revealed that the intervention diminished self-reported depressiveness, self-management powers and enhanced personal resources.

Additionally, the existing study found that self-management strategies have doubled after the intervention. The increase is probably due to the increased knowledge contained in the program about the different self-management strategies available to use. This result is in congruence with the study of Schuster et al. (2017), and the study of Mehri et al. (2019) who investigated the effectiveness of cognitive-behavioral therapy-based self-management program on depression in pregnant women and revealed a significant difference between the mean score of depression immediately, 4 months and 8 months after the intervention. Moreover, the study of Ghadampour and Hojjati (2017) studied the effect of self-care on depression in the elderly with heart disease and revealed that high self-care and resilience are associated with reduced depression.

Moreover, in alignment with the current study results, the study of Myers et al. (2020) who clarified the effect of commercially available mobile apps for self-management of depression and revealed that such applications are readily available and are extremely beneficial for people living with depression, however, minor compromises in apps' functionality and quality. In their systematic review, Bevan Jones et al. (2018) revealed that adolescents at risk of depression had positive outcomes with psychoeducational programs.

The current study clarified that an enhancement in coping among the studied sample. A significant change has been observed between pre, post, and follow-up observations. This is marked as a positive effect of the psychoeducational program applied. Moreover, a strong positive correlation was found between coping strategies and self-management among the studied sample. This is congruent with Butt et al. (2019) who studied the association between depression and coping and revealed that coping mediates depression's negative impact. The study of Stapleton et al. (2020) in agreement with the current study results, studied psychological distress and coping styles in teachers and revealed that

coping-related awareness programs for teachers are essential for promoting coping and reduce emotional distress.

The results of present study reported that patients with depressive disorder require training to cope with their symptoms using alternative methods, in addition to psychotropic medications. Coping strategies give patients participation chance guided by researchers' instructions, discussing idea related to symptoms improvement. As explained by El-Azzab (2018) studying auditory hallucinations related coping methods among patient with psychiatric disorders, the researcher stated that patients who received the training program showed more adaptive coping skills such as: Leadership, and more understanding of their health condition. Other benefits include paying attention to other group members' experiences with proficient coping strategies to manage depressive symptoms.

Moreover, Thompson et al. (2020) in their study regarding the impact of a depression self-management intervention on seizure activity, revealed that the implemented program may have a positive impact on the health and well-being of people with epilepsy by reducing their perceived seizure severity indirectly, through reducing their depressive symptoms. In another study by Zoun et al. (2019) studying self-management training effectiveness for treatment-resistant and chronic depressive patients revealing that the implemented program empowered patients to move to less specialized treatments.

The current study represented that with higher coping abilities, the better self-management, while there was no visible effect on depressive state as reported by the studied sample. However, depression was slightly improved between pre, post, and follow-up observations, COPE inventory was weakly associated with self-reported depression. The change in a psychological state takes a long time to be effective, the slight observed change in depression and the immense change in self-management abilities was expected. In the study of Schleider et al. (2019) where they

investigated immediate gains effect in long-term symptom change in youth with depression, they revealed that assessing immediate change is a promising approach to long-term treatment. In contradiction with the current study, Ghanem et al. (2019) displayed that, coping strategies have a weak negative correlation with depressive symptoms, the contradiction may be related to the time conducting the study and the sample size.

Conclusion

In conclusion, the current study revealed that the studied sample had reported a slight positive change in depressive symptoms, more than double increase in self-management skills, and slight constructive change in coping strategies over the course of three-time observations. Therefore, the psycho-educational program is effective in promoting positive self-coping strategies among patients with depression.

Recommendations

The current study is recommending the following:

- Further research is required with larger sample size.
- Employment of online, computer, and mobile-based psychoeducational programs.
- Implement more adaptive coping strategies with depressive patients.
- Nurses in psychiatric organizations, along with other healthcare members, should help patients develop, and use more self-management techniques and coping strategies.

Conflict of interest

The authors declare that they have no competing interests.

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References

- Basu, R., Ory, M., Towne Jr, S., Smith, M., Hochhalter, A., & Ahn, S. (2015). Cost-effectiveness of the chronic disease self-management program: implications for community-based organizations. *Frontiers in public health*, 3, 27. <https://doi.org/10.3389/fpubh.2015.00027>.
- Bevan Jones, R., Thapar, A., Stone, Z., Thapar, A., Jones, I., Smith, D., & Simpson, S. (2018). Psychoeducational interventions in adolescent depression: A systematic review. *Patient Education and Counseling*, 101(5), 804-816. <https://doi.org/10.1016/j.pec.2017.10.015>.
- Bruce, D., & Casarella, J. (2020). Depression. <https://www.webmd.com/depression/guide/what-is-depression>.
- Butt, M., Sisic, M., Silva, C., Naik, H., Esmann, S., Jemec, G., & Kirby, J. (2019). The associations of depression and coping methods on health-related quality of life for those with hidradenitis suppurativa. *Journal of the American Academy of Dermatology*, 80(4), 1137-1139. <https://doi.org/10.1016/j.jaad.2018.09.045>.
- Carver, C. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine*, 4(1): 92-100.
- Carver, C., Scheier, M., & Weintraub, J. (1989). Assessing coping strategies: A theoretically based approach. *J Pers Soc Psychol*. 56(2):267 - 283.
- Collishaw, S., Hammerton, G., Mahedy, L., Sellers, R., Owen, M., Craddock, N., Thapar, A., Harold, G., Rice, F., & Thapar, A. (2016). Mental health resilience in the adolescent offspring of parents with depression: a prospective longitudinal study. *The Lancet Psychiatry*, 3(1), 49 - 57. [https://doi.org/10.1016/s2215-0366\(15\)00358-2](https://doi.org/10.1016/s2215-0366(15)00358-2).

- Cuthbert, C., Samawi, H., Hemmelgarn, B., & Cheung, W. (2018). Effectiveness and components of self-management interventions in adult cancer survivors: A protocol for a systematic review and planned meta-analysis. *Syst Rev*, 7, 238. <https://doi.org/10.1186/s13643-018-0902-7>.
- Dell'Osso, B., Albert, U., Carrà, G., Pompili, M., Nanni, M., Pasquini, M., Poloni, N., Raballo, A., Sambataro, F., Serafini, G., Viganò, C., Demyttenaere, K., McIntyre, R., & Fiorillo, A. (2020). How to improve adherence to antidepressant treatments in patients with major depression: a psychoeducational consensus checklist. *Annals of General Psychiatry*, 19(1). <https://doi.org/10.1186/s12991-020-00306-2>.
- Eggart, M., Queri, S., & Muller-Oerlinghausen, B. (2019). Are the antidepressive effects of massage therapy mediated by restoration of impaired interoceptive functioning? A novel hypothetical mechanism. *Med Hypotheses*, 128, 28-32. <https://doi.org/10.1016/j.mehy.2019.05.004> PMID: 31203905.
- El-Azzab, S. (2018). The program for coping methods to improve auditory hallucinations among patients with psychiatric disorders: A randomized controlled trial. *American Journal of Nursing Science*, 7(6), 268 - 280. <https://doi.org/10.11648/j.ajns.20180706.20>.
- El-Gilany, A., Elkhawaga, G., & Sarraf, B. (2018). Depression and its associated factors among elderly: A community-based study in Egypt. *Archives of Gerontology and Geriatrics*, 77, 103 -107. <https://doi.org/10.1016/j.archger.2018.04.011>.
- Esfahani, M., Ahmadi, M., & Dehnad, A. (2020). Design of psycho-educational web-based interventions for people with mental disorders: A systematic review. *Journal of Technology in Behavioral Science*, 5(4), 345 - 356. <https://doi.org/10.1007/s41347-020-00141-y>.
- Ghadampour, E., & Hojjati, M. (2017). Role of self-care, resilience and frustration in depression in the elderly with heart disease. *Journal of Aging Psychology*, 3(3),181-188. https://jap.razi.ac.ir/article_812.html?lang=en.
- Ghanem, I., Castelo, B., Fonseca, P., Carmona-Bayonas, A., Higuera, O., Beato, C., García, T., Hernandez, R., & Calderon, C. (2019). Coping strategies and depressive symptoms in cancer patients. *Journal of Clinical and Translational Oncology*, 22. <https://doi.org/10.1007/s12094-019-02123-w>.
- Hagerty, B., & Bathish, M. (2018). Testing the relationship between a self-management intervention for recurrent depression and health outcomes. *Applied Nursing Research*, 44, 76 - 81. <https://doi.org/10.1016/j.apnr.2018.10.001>.
- Ho, S., Jacob, S., & Tangiisuran, B. (2017). Barriers and facilitators of adherence to antidepressants among outpatients with major depressive disorder: A qualitative study. *PLOS ONE*, 12(6), e0179290. <https://doi.org/10.1371/journal.pone.0179290>.
- James, S., Abate, D., Abate, K., Abay, S., Abbafati, C., Abbasi, N., Abbastabar, H., Abd-Allah, F., Abdela, J., Abdelalim, A., Abdollahpour, I., Abdulkader, R., Abebe, Z., Abera, S., Abil, O., Abraha, H., Abu-Raddad, L., Abu-Rmeileh, N., Accrombessi, M., & Murray, C. (2018). Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990 - 2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 392(10159), 1789-1858. [https://doi.org/10.1016/s0140-6736\(18\)32279-7](https://doi.org/10.1016/s0140-6736(18)32279-7).
- Kemp, V. (2011). Use of 'chronic disease self-management strategies' in mental healthcare. *Current Opinion in Psychiatry*, 24(2), 144 - 148. <https://doi.org/10.1097/YCO.0b013e3283438014>.
- Kidd, T., Carey, N., Mold, F., Westwood, S., Miklaucich, M., Konstantara, E., Sterr, A., & Cooke, D. (2017). A systematic review of the effectiveness of self-management interventions in people with multiple sclerosis at improving depression, anxiety

- and quality of life. *PLOS ONE*, *12*(10), e0185931. <https://doi.org/10.1371/journal.pone.0185931>.
- Lean, M., Fornells-Ambrojo, M., Milton, A., Lloyd-Evans, B., Harrison-Stewart, B., Yesufu-Udechuku, A., Kendall, T., & Johnson, S. (2019). Self-management interventions for people with severe mental illness: Systematic review and meta-analysis. *The British Journal of Psychiatry*, *214*(5), 260–268. <https://doi.org/10.1192/bjp.2019.54>.
- Lim, G., Tam, W., Lu, Y., Ho, C., Zhang, M., & Ho, R. (2018). Prevalence of depression in the community from 30 countries between 1994 and 2014. *Scientific Reports*, *8*(1). <https://doi.org/10.1038/s41598-018-21243-x>.
- Litman, J. (2006). The COPE inventory: Dimensionality and relationships with approach- and avoidance-motives and positive and negative traits. *Personality And Individual Differences*, *41*(2), 273-284. <https://doi.org/10.1016/j.paid.2005.11.032>.
- Liu, S., Yang, B., Gong, X., Chen, J., Liu, Z., Zhang, J., & Wang, X. (2020). Prevalence and influencing factors of depression self-management among Chinese community residents: A cross-sectional study. *Frontiers in Psychiatry*, *12*. <https://doi.org/10.3389/fpsy.2020.559844>
- McCorkle, R., Ercolano, E., Lazenby, M., Schulman-Green, D., Schilling, L., Lorig, K., & Wagner, E. (2011). Self-management: Enabling and empowering patients living with cancer as a chronic illness. *CA Cancer J Clin.*, *61*, 50–62. <https://doi.org/10.3322/caac.20093>.
- Mehri, M., Irvani, M., Bargard, M., & Hosein, M. (2019). Effectiveness of cognitive behavioral therapy-based self-management on depression in pregnant women: A randomized controlled trial. *J Biochem Tech*, *10*(3), 92-97. <https://jbiochemtech.com>.
- Myers, A., Chesebrough, L., Hu, R., Turchioe, M. R., Pathak, J., & Creber, R. (2020). Evaluating commercially available mobile apps for depression self-management. AMIA Annual Symposium proceedings. *AMIA Symposium*, 906 - 914.
- Omisakin, F., & Ncama, B. (2011). Self, self-care, and self-management concepts: Implications for self-management education. *Educational Research*, *2*(12), 1733-1737. <http://www.interestjournals.org/ER>.
- Reynolds, K., Medved, M., Mackenzie, C., Funk, L., & Koven, L. (2020). Older adults' narratives of seeking mental health treatment: Making sense of mental health challenges and “muddling through” to care. *Qualitative Health Research*, *30*(10), 1517 - 1528. <https://doi.org/10.1177/1049732320919094>.
- Sassen, B. (2018). Patient education and improving patients' self-management. Nursing: Health education and improving patient self-Management. Cham: Springer International Publishing. 141 - 234.
- Schleider, J., Abel, M. & Weisz, J. (2019). Do immediate gains predict long-term symptom change? findings from a randomized trial of a single-session intervention for youth anxiety and depression. *Child Psychiatry Hum Dev* *50*, 868–881. <https://doi.org/10.1007/s10578-019-00889-2>.
- Schuster, R., Leitner, I., Carlbring, P., & Laireiter, A. (2017). Exploring blended group interventions for depression: Randomized controlled feasibility study of a blended computer and multimedia-supported psychoeducational group intervention for adults with depressive symptoms. *Internet Interventions*, *8*, 63 - 71. <https://doi.org/10.1016/j.invent.2017.04.001>
- Stapleton, P., Garby, S., & Sabot, D. (2020). Psychological distress and coping styles in teachers: A preliminary study. *Australian Journal of Education*, *64*(2), 127-146. <https://doi.org/10.1177/0004944120908960>.
- Tesfaye, T. (2018). Coping strategies among nurses in South-west Ethiopia: descriptive, institution-based cross-sectional study. *BMC Res Notes* *11*, 421. <https://doi.org/10.1186/s13104-018-3557-5>.
- Thompson, N., McGee, R., Garcia-Williams, A., Selwa, L., Stoll, S., Johnson, E., & Fraser, R. (2020). The impact of a depression self-management intervention on seizure

- activity. *Epilepsy & Behavior*, 103, 106504. <https://doi.org/10.1016/j.yebeh.2019.106504>.
- van Grieken, R., Kirkenier, A., Koeter, M., Nabitz, U., & Schene, A. (2013). Patients' perspective on self-management in the recovery from depression. *Health Expect*, 18, 1339 -1348. <https://doi.org/10.1111/hex.12112>.
- Vos, T., Barber, R., Bell, B., Bertozzi-Villa, A., Biryukov, S., Bolliger, I., & Dicker, D. (2015). Global burden of disease study 2013 collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 301 acute and chronic diseases and injuries in 188 countries, 1990-2013: A systematic analysis for the global burden of disease study 2013. *Lancet*, 386(9995), 743 - 800. [https://doi.org/10.1016/S0140-6736\(15\)60692-4](https://doi.org/10.1016/S0140-6736(15)60692-4).
- World Health Organization. (2020). Health and well-being profile of the Eastern Mediterranean Region: An overview of the health situation in the region and its countries in 2019. Cairo: WHO Regional Office for the Eastern Mediterranean.
- Zoun, M., Koekkoek, B., Sinnema, H., van der Feltz-Cornelis, C., van Balkom, A., Schene, A., Smit, F., & Spijker, J. (2019). Effectiveness of a self-management training for patients with chronic and treatment resistant anxiety or depressive disorders on quality of life, symptoms, and empowerment: Results of a randomized controlled trial. *BMC Psychiatry*, 19(1). <https://doi.org/10.1186/s12888-019-2013-y>.
- William, W., Zung, M., & Durham, N. (1965). A self-rating depression scale. *Archives of General Psychiatry* 12, 63 -70. <http://archpsyc.jamanetwork.com/> by a University of Pittsburgh User on 09/10/2013.