Effectiveness of Psycho-Educational Intervention Program on Anxiety and Depression of Patients with Type II Diabetes Mellitus in Gaza Strip

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Abstract: Developing psycho-educational program is necessary for nurses to improve the psychological status (Anxiety & Depression) of patients with type 2 diabetes. The study aim was to assess the effect of psycho-educational intervention program on psychological status (anxiety & depression) of patients with type II Diabetes Mellitus in Gaza Strip. Quasi-experimental design (pre-test/post-test) was used in this study; from the accessible population 200 participants, 60 participants were chosen who have the highest score on depression and anxiety. Data were obtained in the study through three main categories; Socio-demographic and medical record, psychological depression and anxiety scale: to assess the level of anxiety and depression among type II DM. The research hypothesis is, the mean scores of post psycho-educational intervention will be lower than the mean scores pre intervention in study mean variables; (1) anxiety, (2) Depression level among type II DM. The study results; in the socio-demographic, the study showed that, 32 were females & 28 were males between 40 to 49 years old, 42 of participants were achieved grade 12 or less. The result showed a statistically significant differences in mean scores of participants' Anxiety level pre, immediate post, and follow-up 3 months later after implementing the program that, decreased from 18.75 in the pre-intervention to 14.77 at $t = 16.72$ at $p < 0.00$ in the immediate post-intervention and reached 14.48 in the follow-up 3 months later at $t = 2.54$. $p = < 0.014$, the mean scores of depression level pre, immediate post & three months follow-up after the psycho-educational intervention program decreased from 18.7 in the pre-intervention to 15.4 in the immediate post-intervention at $t = 16.2$ at $p = < 0.000$ and reached 14.2 in the follow-up 3 months later at 10.3 at $p = < 0.00$. Pearson's correlation analysis was used to assess the relationship between anxiety and depression and age, gender and monthly income of participants. It shows a non-significant statistical relationships related to age ($r=.021$ at $p = 0.87$), gender ($r =.08$, at p value = 0.54) and monthly income it shows inverse non-significant relationship with anxiety and depression ($r =-0.14$, p-value =0.27) indicating that participants who were gaining adequate income were likely to have less anxiety or depression. It is recommended to increase participants' awareness of socioeconomic support agencies to ensure support and minimum respectable living. Further researches needed to be conducted over a longer period to promote the effectiveness of psycho-educational intervention psychotherapy and therapeutic regimens for Type II DM patient prognosis on a larger scale, particularly to focus on enduring psychological and physical exercises behaviors.
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Key words: Psycho-educational intervention program, Type II diabetes mellitus, Anxiety and depression.

1. Introduction

Diabetes is a worldwide problem with devastating human, social, and economic impacts. The global prevalence of diabetes among adults aged 20–79 years will be 6.4%, affecting 285 million adults, in 2010 and will increase to 7.7% (439 million adults) by 2030. The increase in the proportion of people 65 years of age and older appears to be an important demographic change that affects the prevalence of diabetes across the world (Kilpartrick et al., 2008). With regard to the Palestine population, the prevalence of diagnosed diabetes is nearly 9%; if we consider the estimated number of unreported cases, the prevalence actually is nearly 11.3% among refuges in Gaza Strip (MoH, 2006, UNRWA 2010).

Psycho-education refers to the education offered to people who live with a psychological disturbance. psycho-educational training involves patients with schizophrenia, clinical depression, anxiety disorders, psychotic illnesses, eating disorders, and personality disorders, as well as patient training courses in the context of the treatment physical illnesses. A goal is for the patient to understand and be better able to deal with the presented illness. Also, the patient's own strengths, resources and coping skills are reinforced, in order to avoid relapse and contribute to their own health and wellness on a long-term basis. The theory is, with better knowledge the patient has of their illness, the better the patient can live with their condition. Psycho-educational group psychotherapy is one of three types of group therapies offered to the

individual of emotional and psychological disturbances, the other two being Process Group Therapy and Rehabilitative Group Therapy (Allen, Kelly & Glodich, 2009).

Process groups provide patients with an opportunity to identify destructive patterns of relating and to gain insight into those patterns and remedy them. Process groups also provide opportunities to identify healthy patterns of relating so they can be reinforced and strengthened. This therapy can be structured and supportive in nature or unstructured and more expressive. Focuses on identifying the individual participant's strengths and weaknesses in everyday life functioning, including work, school, social, family and leisure settings. Specific techniques are then used to tap into patients' strengths so as to habilitate or rehabilitate areas of weakness so as to promote community reintegration and tenure (Stein, Allen & Hill, (2008).

Psycho-educational program helps patients better recognize their anxiety or depression symptoms by teaching about the different anxiety or depression disorders. The group aims to help patients recognize the difference between healthy and problematic levels of anxiety or depression, as well as between adaptive and non-adaptive responses to anxiety or depression. The group helps patients employ cognitive-behavioral techniques and general relaxation strategies to assist them in managing their anxiety or depression. (Stein, Allen & Hill, 2008). (Allen, 2006).

The study will be of great importance to nursing profession, for improving nursing theory and practice in the clinical area by stressing the importance of dealing with diabetic patients not only physically but also psychologically. For research, it will add a new trend in understanding the importance of psychological aspect and its effect on the health status of diabetic patients. The investigator is interested in examining the effectiveness of psycho-educational intervention program on psychological state (Anxiety & Depression) among patients with type II diabetes mellitus living in Gaza Strip.

Research Hypotheses

The following hypotheses were tested to determine the effect of the psycho-educational intervention program on the psychological status (anxiety & depression) in addition to blood glucose levels of patients with type 2 diabetes in Gaza Strip.

1- The post mean anxiety scores of patients with type II diabetes who exposed to the proposed psycho-educational intervention program will be lower than their pre-mean anxiety scores immediately after the program and three months later.
2- The post mean depression scores of patients with type II diabetes who exposed to the proposed psycho-educational intervention program will be lower than their pre-mean depression scores. Immediately after the program and three months later.

The post mean blood glucose level of patients with type II diabetes who exposed to the proposed psycho-educational intervention program will be lower than their pre-mean blood glucose level values immediately after the program and three months later.

2. Material and Methods

This study focused on assessing the effect of psycho-educational intervention program on blood glucose level, anxiety and depression among type II DM clients in Gaza Strip.

Research design

A quasi-experimental design was used in the current study (pre/post-test design), single group is studied.

Sample:

The sample of study was 60 DM type II participants conveniently selected from Al-Rimal clinic.

Setting:

This study was conducted in Al-Rimal Clinic. It is a central primary health care center in Gaza City and belonging to UNRWA. Al-Rimal Clinic serves about 90000 Palestinian refugees' inhabitants.

Subjects:

The target population for this study was newly diagnosed diabetic type II DM one year ago 2010. having psychological problems according to the assessment tool (n=60)

Tools for Data Collection:

The patient's medical records to obtain blood glucose levels of participant in this study. Pre-post assessment scale: A structured interviewing questionnaire developed by **El- Rekhawi (1977)** for measuring the level of depression and anxiety. This scale contains 90 items in the form of yes or no answers. It was used as pre-post tool to examine the psychological status before and after administrating the psychotherapy psycho-educational intervention program, it is divided into three main subscales: depression (30 items, 30 scores), anxiety (30 items, 30 scores) and withdrawal (30 items, 30 scores). Total scale and subscales scores were used in the study. In relation to scoring system of Anxiety-depressive Scale, the total scale scores ranged from (0-90) scores. Total scale scores were divided into 4 main categories. < 45 score (normal psychological condition). 45- < 60 scores (mild anxiety-depression). 60- < 75 scores

(moderate anxiety-depression). 75-90 scores (severe anxiety-depression). Also, each total subscale scores was divided into 4 main categories: < 15 scores (no depression/stress or anxiety). 15- < 20 scores (mild depression/stress or anxiety). 20- < 25 scores (moderate depression/stress or anxiety). 25-30 scores (severe depression/stress or anxiety).

The psycho-educational intervention program:

The psycho-educational intervention program was designed by the researcher after reviewing the related literature based on cognitive and behavioral strategies, support system, problem solving, pleasant activities, mind body thought-control techniques, cognitive restructuring, training in social skills and interpersonal contact crisis intervention, and emergency planning to overcome anxiety and depression and diminish diabetes-released distress, reduce perceived barriers to various aspects of self-management, increase physical activity, and enhance coping skills. **(Lorig et al., 2010)**

The program was based primarily on group guidance, actual participation, demonstration and role play, and educational method, to facilitate the communication and participation process, and to create an atmosphere of intimacy and affection.

The group method has several benefits, including:

- Create an atmosphere of mutual understanding and interaction between individuals.
- The group reduced the severity of negative emotions in an individual where he realizes the poor psychological adjustment.
- The group encourages the individual to change his behaviors based on the action of the members of the group, especially in the positive side.
- The group provides an opportunity for the growth of relationships and social interactions, and work to solve problems in a group situation akin to the real-life situations.
- The group is working to enlighten the individual about their difficulties and pressures in new aspects and dimensions.

Procedure:

The study was started on the 1st of January after receiving a written ethical approval from the research ethical committee of the faculity of nursing, Cairo University as well as from united nation for relief and work agency UNRWA health department on 20\10\2010 in Gaza Strip to collect data and implement the program at Al-Rimal UNRWA Clinic & from the participants. Permission from Elrekhawi was obtained to use his anxiety-depression scale as pre\ post assessment tool. The educational program was constructed by the researcher based on the findings of the revised articles and the recommendations of expert. Questionnaires were collected from the participants during their routine visit to the diabetic clinic.

Ethical consideration:

Before data collection, approvals from UNRWA health department administrator and nurses were obtained. Participation in and withdrawal from the study were voluntary. The anonymity of participants and confidentiality of their responses were ensured. Coding of the questionnaires was done by a researcher, and only the overall results were shared with nursing and administrators.

- Written permission (informed consent) of participation was obtained from each participant at the first session.
- The researcher ensures that the study posed no risk or hazards for all participants.
- Each participant was informed that his participation in the study is voluntary and collected data are confidential.
- Permission from Elrekhawi was obtained to use his pre\ post assessment anxiety-depression scale.

Description of the program

The purpose of this program is to engage the participant in more adaptive coping methods, experience less burden of anxiety, depression and successful management of blood glucose level. The constructed program was submitted to a panel of experts, and had been evaluated. The researcher took all comments of experts into consideration and modified the program accordingly. Then, an educational booklet (a self-help manual) was designed by the researcher.

The psycho-educational intervention program was based on four principles:

1) Demonstration and guidance. 2) Practice 3) feedback 4) evaluation

The period of the program lasted for 12 weeks. According to the assessment, a convenient sample was selected, the outcome number of study sample was (n = 60) 28 male and 32 female, so each group was divided into 4 small contingence subgroups, for males each subgroup contained 7 participants for each one and 4 small subgroups for females, 8 participant for each subgroup, each subgroup asked to start attending the program that held immediately after obtained the consent approval. The time of each session was 90 mints.

Patients were provided with a self-help manual for overcoming depressive difficulties based on the "Coping with depression" session held by the researcher. The manual had been given to the participants prior to the first session in order to make them familiar with the contents and to facilitate reflecting their own experiences. The group sessions

consisted of discussing particular topics rather than listening about them. A part of the manual had been a homework contained exercises to recognize depressive symptoms, become aware of daily activity patterns, plan more pleasurable activities, solve problems approach, and to recognize and modify cognitive patterns that contribute to maintenance of depression. The exercises were planned as homework. It included keeping mood and daily activities diary, planning daily activities to be more enjoyable ones, practicing a problem solving technique to manage personal problems the patients had been faced with, and used the acquired knowledge to improve self-awareness, primarily with respect to automatic negative thoughts that worsen the depressive mood. The patients' experiences in going through the homework had been discussed at the beginning of the subsequent sessions.

The manual was tested for comprehensibility and clarity in a group of diabetic patients (N = 5) with different demographic and disease-related characteristics. For the purpose of this study, the program had been partially modified and adjusted to diabetes specific psychological problems, anxiety and depression.

Changes in depression and anxiety symptoms and values of blood glucose level for the intervention group were reevaluated immediately after the psycho-educational intervention program and three months later.

The teaching methodology of psycho-educational program included:

- Teaching sessions
- Role plays were used as co-learning methods for participants to practice learned coping methods
- Participants interaction; let the participants to interact in the session, and the group members were discussed problems faced them.
- Work book, theoretical background, worksheets and exercise as home work assignment
- Session evaluation; at the end of each session open discussion was held, evaluation sheet for lecturer performance, positive gains had been identified and evaluated and session was ended.

The psycho-educational intervention program was implemented on the following topics:

- Definition and symptoms of depression and anxiety, interaction between anxiety, depression and diabetes
- Alleviating burden of anxiety and depression through activities and problem solving
- Association between anxiety, depression and cognitive process thoughts, believes and attitudes that induced and maintained anxiety and depression
- Developing a personal plan for managing anxiety and depression-related problems in future.

Techniques used in the implementation of the program:

The researcher used the technique of cognitive behavioral therapy, body mind and spiritual aspects in each session of the program, which was a new trend, somewhat differ from traditional style of educational process in that, involved cognitive detection of the health problem, with the effect of mind body and spirit on the health status and health problem solving, social reinforcement, role playing and home work to enhanced self adaptation, confidence, modification, and adjustment abilities.

1- Establish a good relationship between the researcher and the guided participants, where the researcher seeks to establish a relationship based on therapeutic relation and intimacy, trust, appreciation and mutual respect with members of the sample in order to gain the trust of diabetic participants, helping them to interact positively with the researcher.
2- Enhancing the level of awareness, knowledge, attitude and cognition: towards their physical and psychological health status to react positively in term of biopsychosocial aspects regarding their health.
3- Lectures and group discussion: the researcher used this method to provide the psychological information in a scientific organization, coherent and simplified manner to the group, and as a means for members of the group to express their personalities through the relationships that arise among them, which have collative impact in shortening the participants' behavior and modify it.
4- Homework: Those activities and experiences was assigned to the group for training on the methods of cognitive, emotional and behavioral guidelines they learned during the sessions, and transfer these experiences learned from meetings to outside in their lives. The researcher discussed the homework with the participants at the beginning of each session separately, and make sure they were able to face the daily problems and how the behaved in emergency situations and their abilities in adjustment, control and accommodation. The researcher was assigned the homework at the end of the session, and then reviewed in the next session, and provided reinforcement and corrected the duty which did not reach the appropriate level of performance, the researcher took into account that the homework to be in line with the nature of the sessions and their objectives.

5- Role-playing and behavioral training: The researcher linked the discussion that followed the display of the modeling skill with the lives of the participants group, which was similar to imitation and simulation, and included several cognitive factors to help participants to change their troubles feelings and behavior, and gain experiences and positive feelings about those roles. The researcher used this technique to help members of the group to get rid of pent-up emotions, conflicts and painful experiences, as well as encourage them to express their fears and desires spontaneously, which helps them understand themselves and others.
6- Feedback: It should be specific and particular, and be as descriptive relating to the work already occurred and been observed by others rather than evaluative, they are describing what happened, namely that the evaluation be quantitative and not qualitative. To help guided know the extent of mastery or non-mastery of the skill learned. And assist on the performance of self control and adaptive skills outside the session in everyday life.
7- Problem solving approach: Include the ability to identify and diagnosing the problem and propose possible solutions and choose the appropriate one. The researcher trained the group on the steps of this technique by providing examples of situations and problems they faced and how to overcome these problems in the present and trained to deal with them in the future.
8- Modeling: The researcher used this technique as instructional style, where the model performed the desired behavior correctly.
9- Reinforcement: The researcher used the external and moral reinforcement through the program, as well as praise and thanks to the members of the group on the attendance and commitment to attend.
10- Relaxation training: The researcher had trained the participants groups in using the progressive muscle relaxation technique in the sessions, as well as encouraged them to perform it at home as homework assignment. The procedure was used to relax the major muscles in the body that led to reduce stress among the participants.
11- Self-control: This procedure was done by the participant to modify his behavior without relying on instructions or external reinforcement. It aimed to teach the individual face the stimuli that cause psychological distress, and try to turn it off and then relax and self promotion.

During the implementation phase the researcher used his experience and opinion of experts in the field of psycho-educational therapy beside emotional ventilation and muscle relaxation sessions. The participants were allowed to call the researcher as needed through phone for consultation. All the information given in the sessions was handed to the participants. At the end of the last session for each group was a celebration of distribution of gifts to the participants, in addition to re-fill of anxiety and depression scale as immediately post intervention program.

The evaluation phase:

a- Evaluation of the session:
Each session was evaluated at its end separately, so the participants clarified their points of view towards the meeting and performance in general by using evaluation form. The researcher had taken all the participant comments into account and amendment was adjusted in the following lectures.
b- Post test evaluation: Anxiety and depression scale was refilled by the same participant immediately at the end of the last session to evaluate the effectiveness of the program.
c- Follow up evaluation: Anxiety and depression scale was refilled by the same participant after three months from the last session of psycho-educational intervention program application to examine the stability and reliability of the applied program to ensure continued effectiveness and impact of psycho-educational intervention program that used in the study.

The duration of the study was 8 months; the study started from 1st of January 2011 to 25th of August 2011.

Statistical analysis:

All analyses were performed using Statistical Package for the Social Sciences (SPSS) for Windows version 17.0. Descriptive statistical analysis was used like mean, SD, and categorical data were expressed in terms of frequencies and percent. Person's correlation analysis was used to assess relationships between study variables. Eta square formula was used to test the effect of psycho-educational program in reducing psychological disturbances; anxiety and depression, and BGL among T2DM. A significance level was considered when $P < 0.05$.

3. Result

Table (1) shows that 32 (53.3%) of participants were females, 26 (43.4%) between 40 to 49 years 42 (70%) of participants were achieved grade 12 or less (low educated). About salary; 39 (65%) were $\leq$ 200

$ USD or less,. The mean of their income were (228 $USD). Table (2) shows a statistically significant differences in mean scores of participants' Anxiety level pre, immediate post, and follow-up 3 months later after implementing the program that, decreased from 18.75 in the pre-intervention to 14.77 at t = 16.72 at p < 0.00 in the immediate post-intervention and reached 14.48 in the follow-up 3 months later at t = 2.54. p = < 0.014. Table (3) shows that the mean scores of depression level pre, immediate post & three months follow-up after the psycho-educational intervention program decreased from 18.7 in the pre-intervention to 15.4 in the immediate post-intervention at t = 16.2 at p = < 0.000 and reached 14.2 in the follow-up 3 months later at 10.3 at p = < 0.00. Table (4) Pearson's correlation analysis was used to assess the relationship between anxiety and depression and age, gender and monthly income of participants. It shows a non-significant statistical relationships related to age (r=.021 at p = 0.87), gender (r =.08, at p value = 0.54) and monthly income it shows inverse non-significant relationship with anxiety and depression (r =-0.14, p-value =0.27) indicating that participants who were gaining adequate income were likely to have less anxiety or depression

Table (1): Socio-demographic characteristics of participants(n=60).

Characteristics	Frequency	Percent %
Gender		
Male	28	46.7
Female	32	53.3
Total	**60**	**100.0**
Age Categories		
< 40 Years old (young adult)	8	13.3
40- 49 (Middle adult)	26	43.4
50- 59 (Old adult)	21	35.0
60 or more (Elderly)	5	8.3
Total	**60**	**100.0**
(Mean, SD 48.23(± 0.825)		
Profession		
Professional	6	10.0
Not Working	54	90.0
Total	**60**	**100.0**
Salary income/month		
≤ 200 $ USD	39	65%
201 to 400 $ USD	17	28.3%
401 or more $ USD	4	6.7%
Total	**60**	**100.0**
Mean, SD=241(±95.3) $US		

Table (2) Mean score of anxiety pre, immediate post and follow-up 3 months later the intervention among participants (n=60)

Anxiety	Pre	Immediate-post	T p-value	Follow-up	T p-value
Mean	18.75	14.77	16.72	14.48	2.54
(±SD)	(±2.63)	(±1.9)	0.000*	(±1.77)	0.014*

T-test after immediate post is between pre versus post-test
T-test after follow-up is between post versus 3 months follow-up-test

Table (3) Mean score of depression pre, immediate post and follow-up 3 months later the intervention among participants (n=60)

Depression	Pre	Immediate-post	T p-value	Follow-up	T p-value
Mean	18.78	15.42	16.25	14.18	10.3
(±SD)	(±2.37)	(±1.85)	0.000*	(±1.75)	0.000*

T-test after immediate post is between pre versus post-test
T-test after follow-up is between post versus follow-up-test

Table (4) Relationships among (age, Gender and monthly income) and both anxiety and depression of participants (n=60)

Variable		R	p-value
Age	Anxiety & depression	0.021	0.87
Gender	Anxiety & depression	0.08	0.54
Monthly income	Anxiety & depression	-0.14	0.24

4. Discussion

The present study aims to assess the effect of psycho- educational intervention program on participants' depression and anxiety. Results of this study highlight alarming findings which justify immediate recognition and action, both at clinical and public health levels; as both diabetes and anxiety/depression are major health issues to be prevented and treated. Author suggested that the health care providers engaged in diabetes care and treatment should be trained and updated regarding case-finding and psycho-educational intervention programs and other management modalities of psychological conditions.

This study is congruent with other studies based on psycho-educational therapy for anxiety and depression in patients with type 2 diabetes. In a study to Donker & et al, (2009) revealed that psycho-educational interventions for depression and psychological distress can reduce symptoms. Psycho-education interventions are easy to implement, can be applied immediately and are not expensive. They may offer a first-step intervention for those experiencing psychological distress or depression and might serve as an initial intervention in primary care or community models.

The findings revealed that the quality of study may be important. (Donker, Griffiths, Cuijpers & Christensen, 2009).

Similar results on the effectiveness of psycho-educational interventions have been reported. Active psycho-education includes materials such as books which describe and teach CBT. Cuijpers *et al*. found that active psycho-educational interventions improved functioning over control conditions. The effect sizes reported in Cuijpers *et al*.'s review were larger in the active psycho-educational interventions were all based on CBT techniques, all were guided by a therapist and the duration of the intervention ranged from 4 to 11 weeks, six sessions of psycho-education (Cuijpers,et al 2009). Another study found a significant reduction in depressive symptoms for the intervention group compared to the control group.. we can conclude that psycho-educational interventions can be effective in reducing depressive symptoms.The study supported that psycho-educational intervention, mind/body is based on the belief that health is a dynamic state of balance, adaptation, and recovery, from depression. (Geisner, Neighbors, Larimer 2006).

Three studies concerning the effects of the psycho-educational interventions at post-test and follow-up Depression which involved participants with depression found significant reductions ($P < 0.05$) in depressive symptoms or mental health symptoms for the psycho-education intervention relative to the control on at least one measurement scale and at least one measurement time (Christen sen, Griffiths and Jorm, 2009; Geisner, Neighbors & Larimer, 2009; Jakob, Bhugra & Mann, 2009).

Conclusion and Recommendation

However, the study findings showed that participants in need for encouragement and follow-up from the health care personnel to urge them to continue practicing exercises on daily basis. The care for patients with diabetes should address the biopsychosociocultural aspects; their physical, psychological, social and economic wellbeing and the findings point to the importance of taking individual coping strategies into account when evaluating the impact of diabetes on psychosocial wellbeing. Because of the mean scores of depression and anxiety were not in normal range, for this study, health professionals need to pay attention to patient's psychological state. This is especially true for patients who are likely to use body, mind & spirit beside behavioral cognitive as a coping strategy. Through psychosocial interventions, professionals need to assist patients in establishing positive self evaluations. Delineation of coping strategies might be useful for identifying patients in need of particular psychotherapy, counseling and support.

According to the findings of this study, the researcher suggested the following recommendations: psychiatric mental health nurses should:

1- Aware type II diabetes mellitus patients about their disease in both physical and psychological aspects, lifestyle modification and that a modifications must be used life long, not to be discontinued any way.
2- Ensure awareness and counseling in addition to provision of a booklet designed for this purpose.
3- Provide Written Booklet to Type II DM patients with depression & anxiety to review when needed as a reference**.**

4- Increasing participants' awareness of socioeconomic support agencies to ensure support and minimum decent living
5- Provide Type II DM patient with regimen diet, alternative and herbal medicine beside diabetic medication one dose a day instead of multiple doses to reduce side effects and promote compliance to diabetic medications.
6- Further researches need to be conducted over a longer period to promote the effectiveness of psycho- educational intervention psychotherapy and therapeutic regimens for Type II DM patient prognosis on a larger scale, particularly to focus on enduring psychological and physical exercises behavior.
7- Further research is needed to clarify the underlying mechanisms of associated factors and also to test interventions to reduce the risk of co-morbid anxiety and depression and their adverse outcomes**.**

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References:

1. Allen, J. G. (2006). Coping with the catch 22s of depression: A guide for educating patients. *Bulletin of the Menninger Clinic*, 66, 103-144.
2. Allen, J. G., Kelly, K. A., & Glodich, A. (2009). A psychoeducational program for patients with trauma-related disorders. *Bulletin of the Menninger Clinic*, 61, 222-239.
3. Al-Rikhawi Y & Shaheen O, (1977). Anxiety – Depression scale for evaluation of anxiety, depression & total anxiety-depression. Cairo – ARE.
4. Christensen H, Griffiths KM, Jorm AF: Delivering interventions for depression by using the internet: randomised controlled trial. *BMJ* 2009, 328:265.
5. Clouse, (2008). Department of Internal Medicine, Division of Gastroenterology, Children's Annex, Suite 417, 1 Barnes-Jewish Hospital Plaza, St. Louis, MO 63110.
6. Cuijpers P: Bibliotherapy in unipolar depression: a meta-analysis. *J Behav Ther Exp Psychiatry* 2009, 28:139-147. PubMed Abstract
7. Donker T, Kathleen M Griffiths, Pim Cuijpers and Helen Christensen Department of Clinical Psychology, VU University, van der Boechorstraat 1, 1081 BT Amsterdam, the Netherlands *BMC Medicine* 2009, 7:79 doi:10.1186/1741-7015-7-79
8. Geisner IM, Neighbors C, Larimer ME: A randomized clinical trial of a brief, mailed intervention for symptoms of depression. *J Consult Clin Psychol* 2006, 74:393-399.
9. Jacob KS, Bhugra D, Mann AH: A randomised controlled trial of an educational intervention for depression among Asian women in primary care in the United Kingdom. *Int J Soc Psychiatry* 2009, 48:139-148.
10. Kilpartic E, Rigby A., and Atkin S., (2008). A1c Variability and the risk of Microvascular Complications in type 1 Diabetes: data from the diabetes control and complications trial diabetes care 31,pp 2198- 2202.
11. *Lorig KR, Sobel DS, Ritter PL, Laurent D, Hobbs M, (2010): Effect of a self-management program on patients with chronic disease. Eff Clin Pract 4:256–262,*
12. Stein, H., Allen, J. G., & Hill, J. (2008). *Roles and relationships: A psychoeducational approach to reviewing strengths and difficulties in adulthood functioning. Bulletin of the Menninger Clinic*, 67, 281-313.
13. UNRWA, (2010). The Annual report of the department of health.

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