Relationship between coping styles and level of depression among depressed patients

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Abstract: Depressed patients perceive stress more readily than non-depressed persons, and they struggle to cope with their problematic situations, and their depressive symptoms. Changing maladaptive coping style to adaptive one is a crucial aspect of nursing role through treatment of depression. The aim of this study is to identify relationship between depressed patients coping styles and their level of depression. Total sample of 150 depressed patients of both sexes aged between 21-60 years were selected conveniently from outpatient clinics in El Maamoura Hospital for Psychiatric Medicine and Ras El-Teen General Hospital in Alexandria. Two tools were used to collect the necessary data: the first one is the Ways of Coping Questionnaire" (WOC) to assess thoughts and actions that individuals use to cope with stressful encounters of every day living. Second tool is Beck Depression Inventory is (BDI). to identify or confirm the presence of depressive symptoms and measure their severity. The results showed positive correlation between level of depression and each of emotion focused coping, confrontive coping, accepting responsibility, and escape avoidance coping styles, while negative correlation was found between level of depression and each of problem focused coping, self controlling coping, planful problem solving, and positive reappraisal coping styles.

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1. Introduction

Depression refers to a cluster of symptoms that include, anhedonia, emotional flatness or emptiness with diurnal variation, depressed mood, changes in sleep and appetite, and the cognitive set of futility and hopelessness. These symptoms lead to reduce patient`s ability to perform even normal daily activity. Depression comes by various terms, including major, melancholic, unipolar, and dysthymia [(1-3)].

Depression ranks as one of the major health problems of today. Millions of patients suffering from some form of this disorder crowd the psychiatric and general hospitals, the outpatient clinics, and the offices of private practitioners. The toll exacted by depression extends not only to the devastation of the well-being of individual patients, but also to their families, their wider social and occupational contacts and to the health care system [(4,5)].

Depression is one of the most disabling disorders in the world. It causes more disability than ischemic heart disease or cerebrovascular disease, and it is expected to replace cancer as the second leading cause of morbidity within the next decade. Moreover the onset of depression becomes earlier today than in past decades [(6-8)].

Depression has no single cause. It results from a combination of neourobiological and psychosocial factors which are extremely complex[(2,9)]. Stressful experience is one of the important factors which play a significant role to make persons vulnerable to become depressed, especially when combination with other neourobiological and psychosocial factors occur. Just as stressful events play a role in the initial episode of depression, they can play a role in recurrences of new episodes [(10-12)].

Depressed patients are trapped by low self esteem, hopelessness, lack of inherent capacities, and helplessness. They appraise harm or threat more readily than nondepressed persons in demanding encounters. So it is more difficult for them to use adaptive coping styles to meet the demands of stressors, which lead to increase the negative impact of stress on the clinical course of depression and decrease the choices of treatment [(13-16)].Depression coping responses may be influenced by the severity of the depression symptoms experienced , the complexity of the personal and social problems experienced , the exposure to stressful life events, and the availability of healthy coping resources [(17-19)].

Depression coping is defined as dynamic human responses to complex symptoms of depression and symptom related problems in psychosocial functioning [(20)]. According to Lazarus and Folkman (1984), coping is defined as "the cognitive, behavioral and emotional efforts to manage particular external and/or internal demands that are appraised as taxing or exceeding the resources of the person"[(21)].

Coping theories discussed coping as a dynamic process that is strongly influenced by situational factors or as a trait which is stable across

situations [22]. One response to the trait-situation debate was the development of the interactionist position, which postulates that all behaviors are a function of both the person's traits and the situation [23]. Coping styles and coping transactions are really two sides of the same coin, with transactions involving the application of one's style in a particular situation [24]. Coping theories suggested that there are adaptive as well as maladaptive coping styles for stress [25]. Problem-focused coping is directed at managing or changing the problem that causes stress. It is considered as adaptive for controllable events, and maladaptive for uncontrollable ones. While Emotion-focused coping, however, aims at regulating the emotional response to the problem. It is considered as an adaptive way of coping for uncontrollable events [26-28].

Changing maladaptive styles of coping is an important target of depression treatment. People with chronic depression must learn to cope with their illness and its treatment while striving to live a meaningful, productive life [29,30]. Changing maladaptive coping style to adaptive one is a crucial aspect of nursing role, which requires integration of major neurobiological and psychosocial concepts to understand the clients perception of stressors, assessing present and past coping behaviors, identifying available resources for coping, and teaching adaptive coping styles [2].

Moreover recovery from depression as well as relapse prevention depend on accurate nursing process which leads to increase patient`s ability to cope with their negative thinking, low self esteem, social isolation and other depressive symptoms, and to catch early signs of relapse [4,29-32]. Accordingly, the aim of this study is to identify the coping styles used by patients with depression when they encounter problematic situations, and to describe its relation to patients` level of depression.

2. Material and Methods

Materials:

Design: A descriptive correlational design was followed in this study.

Setting: This study was conducted in two psychiatric outpatient clinics in Alexandria:

1) The outpatient clinic of El Maamoura Hospital for Psychiatric Medicine in Alexandria,
2) The outpatient clinic of Ras El-Teen General Hospital.

Subjects :A convenient sample of 150 psychiatric patients of both sexes, medically diagnosed as having depression was selected from the previous outpatient clinics. Patients fulfilled the following inclusion criteria:

1. Being older than 20 years.
2. With no co morbidity .
3. Willing to participate in the study.
4. Able to complete an interview.

Tools:

Tool (I): "The Ways of Coping Questionnaire" (WOC):

This tool was developed by Folkman and Lazarus (1980) to assess thoughts and actions that individuals use to cope with stressful encounters of every day living. The ways of coping questionnaire contains 66 items rated on a likert -type scale that ranges from 0 (does not apply or not used) to 3(used a great deal). There are two classification for this scale, the first one contain thirteen items contribute to the summed raw total score for problem focused coping , and 29 items contribute to the summed raw total score for emotion focused coping [33]. The second classification contain fifty items which represent the following subscales: confrontive coping (six items), distancing (six items), self controlling (seven items), seeking social support (six items), accepting responsibility (four items), escape-avoidance (eight items), planful problem solving (six items), and positive reappraisal (seven items) [34]. In two classification, there are some items were deleted because it did not load clearly to any one factor [33,34].

Tool (II): Beck Depression Inventory (BDI):

The Beck Depression Inventory was given to identify or confirm the presence of depressive symptoms and measure their severity. The BDI is a 21-item self report measure of the severity of depressive symptoms. Each of the BDI items is rated on a likert-type scale from 0-3, yielding a range of scores from a minimum of 0 to maximum of 63. According to BDI manual, the severity of depressive symptoms is indicated from the total score. A score from 0-13 indicates minimal depressive symptoms; 14-19 indicates mild symptoms; 20-28 indicates moderate symptoms; and 29-63 indicates severe depressive symptoms [19].

In addition, a sociodemographic and clinical data interview schedule was added. It included patient`s characteristics as: age, sex, marital status, level of education, economic status, birth order, family size, place of residence, living situation, and monthly income . And clinical data as: history of illness, history of previous hospitalization, treatment taken, family history, disease duration, and systemic diseases.

Method:

- Permission to carry out the study was obtained from the responsible authorities of El Maamoura Hospital for Psychiatric Medicine, and Ras El-Teen General Hospital.

- The Ways of Coping Questionnaire and the Beck Depression Inventory were translated into Arabic Language by the researcher.
- The Ways of Coping Questionnaire and the Beck Depression Inventory were tested for content validity by a Jury of nine experts in the field of psychiatric nursing and psychiatric medicine, six of them were staff members in the department of psychiatric nursing and mental health in the Faculty of Nursing, three of them were from psychiatric medicine department in the Faculty of Medicine, and necessary correction were done accordingly.
- A Reliability test for "the Ways of Coping Questionnaire" and "Beck Depression Inventory" was done on 20 psychiatric patients with depression (which were excluded from the actual study) by using Cronbach`s coefficient alpha which gave an internal consistency of ($\alpha = 0.907$) for the ways of coping questionnaire which was highly acceptable, and ($\alpha = 0.786$) for Beck Depression Inventory which was also acceptable.
- Fifteen depressed patients were selected conveniently from outpatient clinic of El Maamoura hospital to check and ensure the clarity and applicability of the Ways of Coping Questionnaire and Beck Depression Inventory (and they were also excluded from the actual study). Some changes in the wording of the Ways of coping Questionnaire and Beck Depression Inventory were done accordingly, and then the tools were put into final form.
- Confidentiality and privacy were assured.
- The researcher visited each outpatient clinic 6 days per week.
- The researcher determined patients who were diagnosed as having depression through checking patient files.
- The researcher explained the aim of the study to every selected patient in the study.
- The written and verbal informed consent was obtained.
- The researcher interviewed each selected depressed patient individually to collect necessary information about socio-demographic characteristics, level of depression and coping styles, by using socio-demographic and clinical data interview schedule, Beck Depression Inventory and Ways of Coping Questionnaire respectively. Each patient interview was fulfilled through 20-45 minutes.
- The data collection covered a period of 4 months and a half (from 15th of January 2010 to 30th of May 2010).

Statistical analysis:

• Data were coded, computerized and then analyzed using the Statistical Package for Social Science (SPSS) software package version 13.0. the percentage, mean, and standard deviation were used to describe data.

• Count and percentage: used for describing and summarizing the qualitative data.

• Student t-test of significance: used to assess whether the means of two independent groups are statistically different from each other.

• ANOVA test of significance: used to assess whether the means of three or more independent groups are statistically different from each other.

• Welch-ANOVA test of significance: used when ANOVA test is not valid i.e. when different groups have different variances.

• Pearson correlation coefficient: used to quantify the association between two parametric measurement variables .

• The 0.05 level was used as the cut off value for statistical significance to assess significance of the results.

3. Results

Table (1):

It shows the distribution of depressed patients according to their socio-demographic characteristics. It was noted that the majority of the studied patients (79.3%) were from El-maamoura outpatient clinic, while 20.7% were from Ras El-Teen outpatient clinic. The ages of the studied depressed patients ranged from 20 to more than 50 years with a mean age of 38.4 ± 10.53 years. It was noted that nearly one third of the studied depressed patients (31.3%) are aged between 40 to less than 50 years, 29.3% of them were in the age group of 30 to less than 40 years, followed by 22.7% of them who were in the age group 20 to less than 30 years.

As regard patient's sex, the sample was distributed as follows; sixty percent of them were males and forty percent females. Concerning their marital status more than half of the subjects (53.3%) were married while 36.7% were single, and the rest either were widow (6.7%) or divorced (3.3%).

Concerning educational level, 30.6% of the studied patients were illiterate or just read and write, while 34% had university or postgraduate education, 28.7% had primary or preparatory education, and only 6.7% had secondary education.

Pertaining to the place of residence, the table shows that 67.3% of the subjects lived in urban areas, while 32.7% lived in rural areas. Concerning working status, sixty percent of the patients were employed, while forty percent of them were not employed.

Table (2) illustrates the distribution of the studied depressed patients according to their clinical characteristics. In relation to family history, it was found that the majority of the studied patients had no

family history of psychiatric illness (68.5%), while 31.5% had the family history.

Regarding duration of having depression, 66.7% of patients had depression from five years and more, while 14.7% had depression from one to two years, 16.7% from three to four years, and only 2% suffered from depression from less than one year. The mean of depression duration was 3.46 ± 1.61 years. As regard the type of psychotropic drugs prescribed to patients, 52% of patients had antidepressants medication and 48% of them had antidepressants medication with other types of psychotropic drugs, as anxiolytics and mood stabilizers.

In relation to the number of psychiatric hospitalization, 44.7% of patients were not hospitalized at all. While 26% were hospitalized one to two times, 14.7% were hospitalized three to four times, as well as five times and more. The mean according to number of past hospitalization of the studied depressed patients was 1.05 ± 1.21 times.

Table (1): Socio-demographic characteristics

Variable		Frequency Total (150)	Percent %
Patients` distribution	EL-maamoura	119	79.3
	Ras El-Teen	31	20.7
Age	20-	34	22.7
	30-	44	29.3
	40-	47	31.3
	50+	25	16.7
Mean ± SD	38.4 ± 10.53		
Sex	Male	90	60
	Female	60	40
Marital status	Single	55	36.7
	Married	80	53.3
	Divorced	5	3.3
	Widow	10	6.7
Level of education	Illiterate / Read and write	46	30.6
	Primary / preparatory	43	28.7
	Secondary	10	6.7
	University / Postgraduate	51	34
Mean ± SD	5.61 ± 2.01		
Place of residence	Rural	49	32.7
	Urban	101	67.3
Working status	Working	60	40
	Not working	90	60

Significant at *P≤0.05

Table (3): Shows the distribution of depressed patients according to their level of depression. It reveals that the Beck Depression Inventory mean score for the studied patients was 31.13 ± 16.76. More than half of studied patients (51.3%) had severe degree of depressive symptoms , while 15.3% of had moderate depressive symptoms, and the rest of the studied patients had either mild depressive symptoms (18%) or minimal depressive symptoms (15.3%). Knowing that the scoring range of Beck Depression Inventory was (0-63).

Table (4): In relation to problem focused coping, the table shows that the Problem focused coping mean score for the studied depressed patients was 18.63 ± 8.42. More than half of the studied patients (50.7%) used problem focused coping quite a bit to cope with stressful encounters, while 26.7% used it in somewhat degree, 22% used it in a great deal degree, and only 0.7% of the studied patients did not use it at all.

Concerning emotion focused coping, the table shows that the emotion focused coping mean score for the studied depressed patients was 50.28 ± 11.346. The majority of studied depressed patients (68.7%) used emotion focused coping quite a bit, while 27.3% used it in a great deal degree, and only (4%) used it in somewhat degree.

Table (2): Clinical characteristics of the studied patients

Variable		Frequency Total(150)	Percent %
Family history	Yes	47	31.5
	No	102	68.5
Disease duration	Less than 1 year	3	2
	1-2 years	22	14.7
	3-4 years	25	16.7
	5+ years	100	66.7
Mean ± SD	3.46 ± 1.61		
Psychotropic drugs	antidepressants	78	52
	Antidepressants with other psychotropic drugs	72	48.0
Number of hospitalization	0	67	44.7
	1-2	39	26
	3-4	22	14.7
	5+	22	14.7
Mean ± SD	1.05 ± 1.21		

* Significant at *P≤0.05

Table (3): Distribution of depressed patients according to their level of depression:

Level of depression	Frequency (n=150)	Percent %
Minimal depressive symptoms (0-13)	23	15.3
Mild depressive symptoms (14-19)	27	18.0
Moderate depressive symptoms (20-28)	23	15.3
Severe depressive symptoms (29-63)	77	51.3
Total Mean score (Mean ± SD)	31.13 ± 16.76	

* Significant at *P≤0.05

Table (4): distribution of studied depressed patients according to problem and emotion focused coping styles:

Coping style	Degree	Frequency Total (150)	Percent %
Problem focused coping (0-39)	not used (Zero score)	1	0.7
	Used somewhat (1-13)	40	26.7
	Used quite a bit (14-26)	76	50.7
	Used a great deal (27-39)	33	22
Total Mean Score (Mean ± SD)	18.63 ± 8.429		
Emotion focused coping (0-87)	not used (Zero score)	0	0
	Used somewhat (1-29)	6	4
	Used quite a bit (30-58)	103	68.7
	Used a great deal (59-87)	41	27.3
Total Mean Score (Mean ± SD)	50.28 ± 11.346		

* Significant at *P≤0.05

Table (5): describes the eight coping styles used by the studied patients. This table shows that the majority of the studied patients (62%) used "confrontive coping" quite a bit, while 20.7% used it somewhat, and 17.3% used it a great deal. This table shows that the Confrontive coping mean score of the studied subjects was 9.42 ± 3.28.

As regard "distancing" coping style, more than half of the studied sample (54.7%) used distancing coping style quite a bit to deal with stressful encounters, while 26.7%used it somewhat, while only 18% used it a great deal. Distancing coping mean score for studied patients was 9.01 ± 3.79.

Concerning "self controlling" coping style, about half of the studied depressed patients used self controlling through stressful situations in quite a bit degree, while 38% used it somewhat, (12%) used it a great deal, only (1.3%) did not use this style of coping. Self controlling coping mean score for studied subjects was 9.29 ± 4.16.

As for "seeking social support" coping, the highest percentage of depressed patients (43.3%) used this style of coping quite a bit, 29.3% used it a great deal, while 26.7% used it somewhat, and only 0.7% did not use it at all. Seeking social support coping mean score for studied subjects was 9.77 ± 4.40.

It was noted that the majority of studied depressed patients (44%) used accepting responsibility coping style a great deal, while 41.3% used it quite a bit, 14% used it somewhat, and only (0.7%) did not use it. Accepting responsibility coping mean score for studied subjects was 7.72 ± 2.66.

It is clear that 41.3% of studied depressed patients used "escape-avoidance" coping style quite a bit to relief stress, while 40.7% used it a great deal, and the lowest percentage was in patients who used it in somewhat degree. Escape-avoidance coping mean score for studied subjects was 14.22 ± 5.17.With respect to "planful problem solving" coping style, the majority of the studied patients used this style of coping quite a bit, 36% used it somewhat, (22%) used it a great deal, and only 1.3% did not use it. Planful problem solving coping mean score for studied depressed patients was 8.161 ± 4.60.

In relation to positive reappraisal coping style, 38% of the studied depressed patients used it quite a bit, while about one third (32%) of them used it somewhat, 28.7% used it in a great deal degree, and only 1.3% did not use this style of coping. Positive reappraisal coping mean score for studied depressed patients was10.86 ± 5.40.

Table (6): Pearson correlation coefficient revealed that, problem focused coping style was negatively and significantly correlated to level of depression in moderate degree (r =-0.401, P=0.000*) . While, emotion focused coping style was positively and significantly correlated to level of depression in moderate degree (r = 0.288, P = 0.000*).

When looking specifically at the correlation between depression and eight coping styles, Pearson correlation coefficient showed that, the greater use of escape avoidance coping was found to be significantly and positively correlated to greater depression in moderate degree (r=0.597, p=0.000*). Greater accepting responsibility and confrontive coping, showed a trend toward significant positive correlation in moderate degree with level of depression (r = 0.284, p=0.000*; r=0.229, p=0.005* respectively), while self controlling, planful problem solving and positive reappraisal were negatively correlated with greater depression in moderate degree. (r=-0.352, P=0.000*; r=-0.380, P=0.000*; r=-0.420, P=0.000* respectively). Furthermore, results of correlations between coping styles and depression showed that distancing coping and seeking social support were not correlated to level of depression (r=0.042, p=0.613; r=-0.056, P=0.493) respectively.

Table (7): Shows the relations between depressed patients age and their problem and emotion focused coping styles, the table revealed that there are no statistical significant difference both problem and emotion focused coping styles mean scores as a function of age groups (F = 0.923 P = 0.431 ; F = 1.897, p = 0.133 respectively). Furthermore, it is clear that the higher mean score for problem focused and

emotion focused coping was in age 30 to less than 40 years (20.27 ± 8.976).

Table (8): Shows the relations between age and eight coping styles, it is clear that there are statistical significant differences between both distancing and accepting responsibility coping styles as a function of depressed patients age (F = 3.19, P = 0.025* ; F = 3.162, P = 0.026* respectively). The highest mean score for distancing coping style was in age 50 and more (11.00±4.301).

The results revealed that there are increasing in mean score for confrontive coping style with age. Regarding self controlling, seeking social support, accepting responsibility, planful problem solving, and positive reappraisal coping styles means, the highest mean was in age 30 to less than 40 years (10.30 ± 5.000, 10.86 ± 4.095, 8.61 ± 2.223, 9.02 ± 4.678, 11.39 ± 5.735 respectively). As for escape-avoidance coping means, the highest mean score was in age 50 years and more (14.84 ± 4.589).

Table (9): shows the relation between level of education of depressed patients and their both problem and emotion focused coping, the table shows that there are statistical significant relation between patients` level of education and their problem focused coping style (F = 3.538, P =0.016*). No statistical significant relationship was found between patients` level of education and emotion focused coping style (F = 1.023, P = 0.393).

Table (5): distribution of the subjects according to the eight coping styles

Coping style	degree	Frequency (n=150)	Percent
Confrontive coping (0-18)	not used	0	0
	Used somewhat	31	20.7
	Used quite a bit	93	62.0
	Used a great deal	26	17.3
Mean ± SD	9.42 ± 3.28		
Distancing coping (0-18)	not used	1	0.7
	Used somewhat	40	26.7
	Used quite a bit	82	54.7
	Used a great deal	27	18
Mean ± SD	9.01± 3.79		
Self controlling (0-21)	not used	2	1.3
	Used somewhat	57	38
	Used quite a bit	73	48.7
	Used a great deal	18	12
Mean ± SD	9.29 ± 4.16		
Seeking social support (0-18)	not used	1	0.7
	Used somewhat	40	26.7
	Used quite a bit	65	43.3
	Used a great deal	44	29.3
Mean ± SD	9.77 ± 4.40		
Accepting responsibility (0-12)	not used	1	0.7
	Used somewhat	21	14
	Used quite a bit	62	41.3
	Used a great deal	66	44
Mean ± SD	7.72 ± 2.66		
Escape avoidance (0-24)	not used	0	0
	Used somewhat	27	18
	Used quite a bit	62	41.3
	Used a great deal	61	40.7
Mean ± SD	14.22 ± 5.17		
Planful problem solving (0-18)	not used	2	1.3
	Used somewhat	54	36
	Used quite a bit	61	40.7
	Used a great deal	33	22
Mean ± SD	8.161 ± 4.60		
Positive reappraisal (0-21)	not used	2	1.3
	Used somewhat	48	32
	Used quite a bit	57	38
	Used a great deal	43	28.7
Mean ± SD	10.86 ± 5.40		

* Significant at *P≤0.05

Table (6): Correlation between level of depression and coping styles:

		level of depression	problem focused coping	emotion focused coping	confrontive coping	distancing coping	self controlling coping	seeking social support	accepting responsibility	escape-avoidance	planful problem solving	positive reappraisal
level of depression	R P	1	-0.401 0.000**	0.288 0.000**	0.229 0.005**	0.042 0.613	-0.352 0.000**	-0.056 0.493	0.284 0.000**	0.597 0.000**	-0.380 0.000**	-0.420 0.000**
problem focused coping	R P		1	0.336 0.000**	0.275 0.001**	0.256 0.002**	0.725 0.000**	0.519 0.000**	0.141 0.086	-0.230 0.005**	0.891 0.000**	0.777 0.000**
emotion focused coping	R P			1	0.500 0.000**	0.591 0.000**	0.312 0.000**	0.427 0.000**	0.646 0.000**	0.652 0.000**	0.319 0.000**	0.390 0.000**
confrontive coping	R P				1	0.264 0.001**	0.165 0.043*	0.210 0.010**	0.411 0.000**	0.382 0.000**	0.249 0.002**	0.226 0.005**
distancing coping	R P					1	0.159 0.052	0.152 0.064	0.285 0.000**	0.253 0.002**	0.272 0.001**	0.347 0.000**
self controlling coping	R P						1	0.294 0.000**	0.036 0.659	-0.153 0.062	0.568 0.000**	0.651 0.000**
seeking social support	R P							1	0.286 0.000**	0.066 0.423	0.255 0.002**	0.300 0.000**
accepting responsibility	R P								1	0.440 0.000**	0.151 0.065	0.146 0.076
escape-avoidance	R P									1	-.0195 0.017**	-0.180 0.028**
planful problem solving	R P										1	0.770 0.000**
positive reappraisal	R											1

Table (7): Relations between depressed patients age and their problem and emotion focused coping styles:

Age /years	Problem focused coping	Emotion focused coping
	Mean ± SD	Mean ± SD
20- (n=34)	18.65 ± 8.876	46.79 ± 12.656
30- (n=44)	20.27 ± 8.976	52.59 ± 11.659
40- (n=47)	17.45 ± 7.796	49.81 ± 9.879
50+ (n=25)	17.92 ± 7.984	51.84 ± 10.881
Total (n=150)	18.63 ± 8.429	50.28 ± 11.346
Significance level	F = 0.923 P = 0.431	F = 1.897 p = 0.133

Table (8): Relations between age and eight coping styles in studied depressed patients:

Age /years	confrontive coping	distancing coping	self controlling coping	seeking social support	accepting responsibility	escape-avoidance	planful problem solving	positive reappraisal
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
20- (n=34)	8.71±3.416	8.18±3.503	9.12±3.859	9.76±4.749	6.85 ± 2.851	13.56±5.428	8.59±4.356	10.74±5.701
30- (n=44)	9.73±3.637	9.00±3.894	10.30±5.000	10.86±4.095	8.61±2.223	14.48±5.634	9.02±4.678	11.39±5.735
40- (n=47)	9.55±2.910	8.55±3.348	8.74±3.608	9.36±4.198	7.45±2.780	14.13±4.933	8.06±4.613	10.68±5.251
50+ (n=25)	9.60±3.175	11.00±4.301	8.76±3.811	8.60±4.637	7.84±2.561	14.84±4.589	8.92±4.974	10.44±4.883
Total (150)	9.42±3.286	9.01±3.798	9.29±4.162	9.77±4.402	7.72±2.665	14.22±5.175	8.61±4.608	10.86±5.401
Significance level	F = 0.710 P = 0.547	F = 3.19 P = 0.025*	F= 1.287 P=0.281	F= 1.650 P =0.180	F = 3.162 P = 0.026*	F = 0.341 P =0.795	F = 0.371 P = 0.774	F = 0.210 P = 0.890

Table (9): relation between level of education of depressed patients and their both problem and emotion focused coping:

Level of education	problem focused coping	emotion focused coping
	Mean ±SD.	Mean ±SD.
Illiterate /read and write (n= 46)	16.17±7.153	51.80±8.120
Primary / preparatory (n=43)	17.63±8.944	48.70±11.141
Secondary (n=10)	21.10±9.620	46.60±13.492
University / postgraduate (n=51)	21.20±8.215	50.96±13.407
Total (n=150)	18.63±8.429	50.28±11.346
Significance level	F = 3.538 P =0.016*	F = 1.023 P = 0.393

* Significant at *P≤0.05

Table (10): Shows the relations between level of education and eight coping styles. According to this table, there are statistical significant difference between level of education and planful problem solving coping (F = 3.250, P = 0.024). Table (10) showed that mean score of planful problem solving coping among patients who have (University / postgraduate) education was higher than planful problem solving mean score among patients who have (Illiterate /read and write) education (9.94±4.492, 7.33±4.227) respectively. Furthermore, it was noted from table (10) that there are highly statistical significant relation between level of education and positive reappraisal coping style (F = 4.582, P=0.004**).

Table (10) showed that mean score of positive reappraisal coping among patients who have (University / postgraduate) education was higher than both positive reappraisal mean score among patients who have (Illiterate /read and write) education and patients who have (Primary / preparatory) education (12.92±5.059, 9.35±5.087 respectively), accordingly patients who have (University / postgraduate) education use positive reappraisal coping style more than patients who have (Illiterate /read and write) education and patients who have (Primary / preparatory) education. In addition there are gradual increasing in mean score of positive reappraisal with increase level of education.

Table (10): Relations between level of education and eight coping styles:

Level of education	confrontive coping	distancing coping	self controlling coping	seeking social support	accepting responsibility	escape-avoidance	planful problem solving	positive reappraisal
	Mean ±SD.	Mean ±SD.	Mean ±SD.	Mean ±SD.	Mean ±SD.	Mean ±SD.	Mean ±SD.	Mean ±SD.
Illiterate /read and write (n = 46)	9.83±2.791	8.93±3.890	8.93±3.849	9.33±4.784	8.37±2.245	15.50±3.793	7.33±4.227	9.35±5.087
Primary / preparatory (n=43)	9.28±3.142	8.21±3.622	8.53±4.008	9.81±3.990	7.12±2.422	14.16±4.624	8.07±4.600	9.84±5.580
Secondary (n=10)	9.10±3.755	10.60±5.147	9.10±5.626	8.70±4.547	6.70±3.093	12.00±6.037	10.00±5.416	11.70±4.945
University / postgraduate (n=51)	9.24±3.755	9.43±3.511	10.27±4.181	10.33±4.394	7.84±3.009	13.55±6.275	9.94±4.492	12.92±5.059
Total (n=150)	9.42±3.286	9.01±3.798	9.29±4.162	9.77±4.402	7.72±2.665	14.22±5.175	8.61±4.608	10.86±5.401
Significance level *P≤ 0.05	F = 0.341 P = 0.795	F = 1.450 P = 0.231	F = 1.559 P = 0.202	F = 0.628 P = 0.598	F = 2.460 P = 0.078	F = 2.015 P = 0.128	F = 3.250 P = 0.024*	F = 4.582 P =0.004**

4. Discussion

Depressed patients are trapped by low self esteem, hopelessness, lack of inherent capacities, and helplessness. They appraise harm or threat more readily than non-depressed persons in demanding encounters. So it is more difficult for them to use adaptive coping styles to meet the demands of stressors. This leads to increase the negative impact of stress on the clinical course of depression and decreases the choices of treatment [13-15,18]. Changing maladaptive styles of coping is an important target of depression treatment. People with chronic depression must learn to cope with their illness and its treatment while striving to live a meaningful, productive life [29,30]. Hence, the present study was carried out to identify coping styles among depressed patients, and its relation with the level of depression, with the hope of increasing nurses awareness about both adaptive and maladaptive coping styles among depressed patients, to increase effectiveness of depression treatment and prevention of suicidal risk.

The results of the current study showed that about half of the studied patients had a severe degree of depressive symptoms. These findings may be related to

the use of emotional focused coping styles by the majority of the studied patients. The emotional coping style includes self blame which is positively correlated with psychological distress and depression [35,36]. Moreover, this severe degree of depressive symptoms was found to be related to the use of maladaptive coping styles, such as escape-avoidance coping style in the present study. Other studies revealed that depressed patients may use less planful problem solving, even if the problems are solvable, and they do not seek social support, but they prefer loneliness and blaming themselves [37,38].

It is worth noting that the mean score regarding the level of depression was higher in females than in males (34.80±16.36, 28.68±16.67 respectively). This may be attributed to the fact that females are more emotionally reactive than males, due to hormonal changes that occur during the menstrual cycle, postpartum period and menopause [39-41]. In addition, it may be related to females motherhood instincts' which leads females to be highly emotional by nature. This result was in agreement with a descriptive epidemiological studies reviewed by Hankin and Abramson (2001) who examined the effect of gender difference on depression , they found that females were preponderant in depression [42]. On the same line, Hankin et al. (2007) found that females exhibit greater levels of depressive symptoms than males [43]. While a study done by Stangler and Printzs (1980) showed that depression was not correlated with gender difference [44].

However, in the present study the majority of the subjects were males, which is in contrast with many studies that explored depression [45-47]. This limited females sample size may be due to the eastern culture that restricts females to seek out psychiatric treatment without obtaining their husband`s permission, or permission of the male authority figure in the family.

According to the findings of the current study, it has been noted that there are statistical significant relationships between level of education and problem focused coping style, it is clear that increase in the level of education will be accompanied by increase in use of problem focused coping style. This may be related to the effect of the educational level on the analytical abilities, the increasing of the educational level will be accompanied by increasing in analyzing and planning abilities [48]. Also planful problem solving and positive reappraisal were significantly related to depressed patient`s level of education. It may be related to that highly educated patients may have more awareness about their problems.

Regarding the coping styles of the studied patients, the present study revealed that depressed patients used emotion focused coping more than problem focused coping when they face problematic situations. This finding may be attributed to neuroticism personality trait that characterizes the personality of depressed patients. Theories of personality suggested that individuals high in neuroticism (emotionality) tend to report more emotion focused coping styles [49]. Individuals with neuroticism personality trait have enduring tendency to experience negative emotional states, they respond more poorly to environmental stress, and are more likely to interpret ordinary situations as threatening, and minor frustrations as hopelessly difficult [50]. Individuals who score high on neuroticism trait are more likely than the average to experience guilt feeling and depressed mood. Neuroticism is also a risk factor for "internalizing" mental disorders such as phobia, depression, panic disorder, and other anxiety disorders [50].

The current study revealed that, a positive moderate correlation was found between emotion focused coping and level of depression. The use of emotion focused coping styles will increase the level of depressive symptoms among depressed patients, as they tend to regulate their emotions more than analyze and solve their problematic situations. In other words when depressed patients are faced by problematic situations, they have more anxiety and more negative emotions, So they try to regulate these emotions by avoiding the stressors cognitively or behaviorally. Avoidance will be effective for a short period of time, but the negative effect of the stressor is still existing, and it will cause depression again [51].

In this respect, Tremblay and King (1994) and Endler and Parker (1990) found that there is a positive correlation between level of depression and emotion focused coping [35,52]. They rationalize their results by the fact that some of the reactions in emotion-oriented coping include "blame the self for being too emotional", "get angry", and "become tense", and the maladaptive flavour of these reactions perhaps contributes to negative self-statements, and therefore to increase the depression [35, 52]. Similarly, Goodwin (2006) found that increase use of emotion focused coping leads to increase the likelihood of depression [53].

Moreover, the results of the current study found that, the majority of the studied patients tend to use less problem focused coping style, also a statistical significant negative moderate correlation was found between the level of depression and problem focused coping style. This may be due to lacking of analytical abilities and concentration among depressed patients that lead them to expend more time and efforts to gather and analyze information about the problematic situations [4]. Consequently, they cannot be able to try out new problem solving skills.

Many studies concluded that depressed patients tend to use less problem focused coping style through their stressful encounters [35,54-57]. Moreover,

Studies carried out by Folkman and Lazarus (1986), Rosenberg et al. (1987) , Greenglass et al (2006), and vitaliano et al. (1992) found that the severity of depressive symptoms among depressed patients were negatively correlated with planful problem solving coping style [16,56,58,59]. Also, Carnazzo (2000) suggested that depressed patients have a significantly lower planful problem solving score [55].

Based on the results of the current study, Problem focused coping style has a positive effect on reducing depressive symptoms. When depressed patients succeed in solving their problems, it gives them a type of reward which increases their self esteem, which in turn has a positive effect on depressive symptoms. Thus increasing the self esteem level leads to decrease the level of depressive symptoms, such as guilt feeling, depressed mood and so on [60,61]. Another interpretation may be that when depressed patients use problem focused coping style, they put their negative energies toward their problem solving instead of toward negative thinking and self blame, thus distracting the patients away from their negative thoughts and decreasing depressive symptoms [4]. Moreover coping theories suggested that solving or managing a problem satisfactorily is one of the best ways of managing emotions. Accordingly when depressed patients succeed in managing their problematic situations, they have less negative emotions and less depressive symptoms [49].

In this respect, Vandam et.al (2003) found that when individuals are taught to systematically investigate their problems, gather information about these problems, develop a plan to address the problem, and to execute and evaluate their plan, it is effective in reducing depressive symptoms [62].

Regarding the adaptability of coping styles, previous researches suggested that problem focused coping style is considered as adaptive in controllable situations and is considered as maladaptive in uncontrollable ones. While emotion focused coping style is considered as maladaptive in controllable situations and adaptive in uncontrollable ones [63]. Moreover there are many studies which proved that adaptive coping styles lead to decrease the severity of depressive symptoms [37,38,64].

The results of the present study showed that confrontive, distancing, seeking social support, positive reappraisal, self controlling, escape-avoidance, and planful problem solving coping styles were used in "quite a bit" degree , only accepting responsibility coping style was used in "great deal" degree. In addition, the findings of the current study indicated that, patients with higher level of depressive symptoms reported more use of confrontive coping and escape avoidance coping styles, but they reported less use of self controlling coping style. On the same line, Rosenberg et al. (1987) found that people with higher levels of depression reported more use of emotion focused coping, confrontive coping, self control, and escape avoidance coping, than those who reported fewer symptoms of depression [56]. This study supported the results of the current study for emotion focused, confrontive and escape avoidance coping styles, but not for self controlling coping style [56]. Similarly, Folkman and Lazarus (1986) found that depressed patients with severe depressive symptoms use more confrontive and escape avoidance coping styles than those with lower degrees of depression [16]. Also, Coyne et al. (1981) found that escape avoidance coping style was significantly higher among depressed patients [65]. However ,Turner et al. (1992) found a negative relationship between depression and escape-avoidance coping [66].

Concerning social support the present findings revealed that 43.3% of the studied subjects used seeking social support in "quite a bit" degree, also it has been noted that there are no significant correlation between level of depression and seeking social support coping style. This result may be related to the fact that the majority of the studied patients lived with their family and more than half of them were married. These patients' characteristics are considered social resources to seek social support . [Coyne et al. (1981)] and [Folkman and Lazarus (1986)] found that there are significantly greater use of seeking social support among depressed patients [16,65]. While, Carnazzo (2000) found that depressed patients did not report seeking social support any more than non-depressed patients [55].

Regarding "accepting responsibility" coping style, the present results revealed that there is a positive correlation between the level of depression and accepting responsibility coping style. This may be due to high degree of patient`s self criticism, as one of the types of self punishment, that will increase the severity of depression. Also the severity of depression may be increased when depressed patients put high level of standards to achieve their responsibilities and then failed in achieving it. Furthermore it may be related to the use of negative thinking by depressed patients such as should statements, which leads to high level of self punishment as they are unable to achieve what they say [34,67]. Folkman and Lazarus (1986) reported that patients with more depressive symptoms used more accepting responsibility coping style than other coping styles [16].

As for distancing coping style, the present findings reported that more than half of the subjects use distancing coping in "quite a bit degree". Also, the current study showed that distancing coping style was positively correlated with escape avoidance, accepting responsibility, planful problem solving, positive

reappraisal, problem focused and emotion focused coping styles. However the current findings did not reveal significant relation between level of depression and distancing coping style among depressed patients. Carnazzo (2000) concluded that depressed patients use less of distancing coping through stressful encounters which is considered inconsistent with the present findings [55].

Moreover the present findings revealed that nearly half of the studied patients used self controlling coping style in "quite a bit degree". Also, a negative correlation was found between self controlling coping style and patient's level of depression. Folkman and Lazarus (1986) supported the present findings, they found that depressed patients use more of self controlling coping style while they are struggling to face their stressors [16]. Carnazzo (2000) reported that depressed patients used less of self controlling coping style, which is in contradiction with the present findings [55].

Regarding positive reappraisal coping style, the present results found that the highest percentage of the subjects used positive reappraisal coping style in quite a "bit degree". Also the present findings showed that increasing use of positive reappraisal coping will be accompanied by decrease in the level of depressive symptoms among depressed patients. This may be attributed to the current results which suggested that positive reappraisal coping style is positively correlated with problem focused and seeking social support coping styles. Furthermore, when depressed patients reappraise negative stressful situation in a positive way, this leads to positive thoughts about the stressful situation, which in turn leads to a positive effect on the depressed patient`s mood, and accordingly the level of depression will decrease. This result was supported by the findings of Jones (2007), who showed that participants who used more of positive reappraisal coping style had less depression [68].

By studying the relations between socio-demographic variables and coping styles, the present findings shows that age was significantly related to two styles of coping, which are distancing and accepting responsibility. In relation to the distancing coping styles ,results of the present study revealed that there are statistical significant relationship between age and distancing coping style, depressed patients in age group 50 and more used distancing as a way of coping more than other age groups (the highest mean score (11.00±4.30) was found in age group 50 and more) . This result may be related to the fact that older people become stressed more readily than younger ones because of their lack of capacities which are related to their age, so they use many styles of emotional coping such as distancing to decrease their internal anxiety level. This result can be explained in the light of traditional ego psychology which suggested that older men become more passive than younger ones, accordingly they use distancing coping style when they confront stressful encounter [69]. Also the present findings are supported by Vasquez and Winner (2002), who found that older adults use more passive coping than younger ones [70]. Folkman and Lazarus et.al (1987) found that younger subjects use less distancing coping style than older ones [71]. Similarly, Aldwin (1991) found negative relationship between age and the reported use of escapist coping styles which support the result of the current study. This result was inconsistent with two studies, the study done by Billings and Moos (1981), and the study done by Yamadaa et al. (2003) who did not find any relationship between this age group and distancing coping style [72,73].

Regarding accepting responsibility coping style, the current results revealed that there was a statistical significant relation between age and accepting responsibility coping style. The depressed patients who are in middle adulthood stage used accepting responsibility coping style more than other age groups. The rationale of this result may be due to the fact that middle adulthood stage characteristics are competence, maturity, responsibility and stability [74]. Accordingly depressed patients who aged between 30 to less than 40 years are mature enough to take their own role to solve their problematic situations. While depressed patients who become elder, are mature enough but they have inferiority feeling which is generated from their lack of capacities due to old age changes, like health problems, and changes in daily life, memory changes, and financial situations , and they perceive stressors as not changeable, so they may become more dependent in relation to their responsibilities. [67]

The results of the current study found that there are no relationship between age and confrontive, seeking social support, planful problem solving and positive reappraisal coping styles. The study done by Folkman and Lazarus et.al (1987) found that younger subjects use more confrontive, seeking social support, and planful problem solving coping styles than did the older subjects, while the older subjects use of distancing, acceptance of responsibility, and positive reappraisal coping styles, more than the younger subjects did [71].

5. Conclusion:

The present findings explored coping styles among depressed patients and its relation to level of depression. Based on these findings, it can be concluded that emotion focused coping is the most style used by depressed patients to relief anxiety, and negative emotions. Emotion focused coping is maladaptive way to cope with stress which depressed

patients face, because it lead to increase level of depression. Problem focused , self controlling, planful problem solving ,and positive reappraisal coping styles are effective ways to relieve level of depression. They can be developed to be parts of the nursing intervention by teaching patients these styles of coping with their stressful encounters, to decrease their level of depression, and to prevent them from suicidal behaviors.

Recommendations

Based on the results of the current study need the following recommendations are suggested:

- Implementation of Psycho-educational programs for depressed patients which aim to:
- Educate them about adaptive and maladaptive coping styles.
- Increase their awareness about coping styles which decrease their level of depressive symptoms.
- Increase patient's awareness about their stressors and its causes, are recommended.
- Conferences and workshops about coping styles are recommended for nurses to increase their awareness about the importance of patient`s coping on the effectiveness of depression treatment.
- Adaptive coping styles such as planful problem solving, positive reaapraisal, self controlling coping styles may be part of nursing process in psychiatric nursing clinical practice to decrease level of depressive symptoms.
- Family education about coping styles and its relation to depressive symptoms, should be implemented.
- Further future researches should be done to increase understanding of the complexity of coping styles among depressed patients.
- Include the different coping styles in the assessment tool to determine their use by the patients and to evaluate them on admission.

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