# Assessment of Psychological Distress among Suicidal Patients at EL Minia Poisoning Control Center

Kotb , F., N; Abd Elkader , N., M; Eissa , M., A; Mohammed , I., I & Hafez , M., E.

Psychiatric - Mental Health Nursing, Faculty of Nursing – El Minia University. Psychiatric -Mental Health Nursing, Faculty Nursing, Cairo University. Psychiatric Medicine, Faculty of Medicine, Assiut University. Psychiatric –Mental Health Nursing, Faculty of Nursing, Assuit University. Clinical toxicology, Faculty of medicine, EL Minia University.

# Abstract

This study aimed at assessing the psychological distress of suicidal patients. A descriptive research design was utilized in this study. A sample of convenience of 50 suicidal patients was recruited from EL Minia Poisoning Control Center. A personal and medical assessment data sheet, stress scale, Hamilton depression scale, and Pierce suicide intent scale were used to achieve the purpose of the study. A structured interview method was used to collect data from patients. Results revealed that, almost two thirds of the sample were females, unemployed, residing rural areas, and most of them were in the age group ranged from 20<30 years old. The majority of the sample had a bad level of stress, most sever level of depression and a high intent for suicide. Statistically significant positive correlations were detected between stress, depression and suicide intent. In conclusion suicidal patients had a high level of depression and stress so, this group of patients were in a great need for continuous psychological treatment and educational program for them and their families. It was recommended that, structured group activity sessions are needed for suicidal patients, and creative non competitive activity for teaching them the social skills for interaction with others, and how to cope with stress, depression and suicidal ideation.

# Key Words: Psychological Distress, And Suicide

# Introduction

**Pender** (2002) reported that, stress that is perceived as a challenge, a threat, or a danger, can have both positive and negative effects. Stress appears to play a prominent role in triggering the first and second episodes of major depressive disorder. The same author added that, stress in a person with major depression leads to poorer response to treatment, poorer social and work function, greater likelihood of chronicity and an increased risk of suicidal behavior.

Stress is a well-known contributor to mood, mental disorders, and suicide risk. Stress is a term often used synonymously with negative life experiences, or life events. Negative life events conferring risk for depression, suicidal thinking, and behavior, includes interpersonal, occupational, and traumatic childhood events. Interpersonal life event also increase risk for suicidal behavior (Michelle and Andrew, 2007). Also, the previous author added that, Parental or spousal death, serious arguments with a spouse have been linked to suicide attempts among adult, while parental separation and relationship break-ups have been linked to suicide among adolescents and young adults. The interpersonal events most relevant to suicidal behavior appear to be those involving loss or conflict in existing interpersonal relationships, rather than simple social isolation.

Depression is one of the most common psychiatric problems, is marked by a recurrent course and elevated psychiatric comorbidity, and increases risk for future suicide attempts, academic failure, interpersonal problems, unemployment, and legal problems (Klein, Torpey, & Bufferd, 2008).

Suicide constitutes a major public health problem in all countries, particucffglarly if one takes into account the years of potential life lost as a result (Bricker, 1996). Moreover, suicide is a major public health issue, which has considerable emotional and economic costs to caregivers, families, friends and the community in general (Pirkis, & Burgess, 1998). In this respect, Frisch and Frisch (1998) stated that, clients who are suicidal often feel overwhelmed by life events and decide that the only relief will come from ending their own lives, intense feeling of fear, loss, anger, despair can drive an individual to commit suicide and the effect of an attempt or completed suicide can be devastating and long lasting. Moreover, Statistics about suicide reported that, 78% of people who commit suicide were between age from 14-40 years old due to poverty and fail to get a job, and about 2700 Egyptian girls were suicide during the year of 2007 (EL Wan, 2007).

Poisoning is one of the top 10 common methods of suicide, and it is the second most common method including drug overdose especially in the developing

world, in many Indian reports, the rates of poisoning as suicidal method range from 20.6% (10.3% organophosphorus) to 56.3% (43.8%) organophosphorus), it has remained so for almost a century, reported poisoning rates in the suicide attempters who attend hospital varies from around 40% to over 80% in many Indian studies (Stone, Geo, 2008). In addition, Amr (2006) reported that, there is no definite number of suicide cases, but the center of poisoning in Cairo university have about 200 case each month, it about 2400 case each year, and the center was reported about 2335 suicide case among the Egyptian youth in the age group between 22-32 years old during the year of 2006.

## Significance of the study

Delineating problems of such patients will help nurses and the family of those patients to institute appropriate measures for reducing these problems. In which, About the last statistics of suicidal poisoning in Egypt males in the age group of 15-40 years old about (2121) case, and female in the same age group are (6002) case (Ain shams center, 2008). Moreover, Data generated from this study would help in planning and managing care of suicidal patients as well as training adequately the personnel responsible for the provision of such care.

#### Aim of the study

The aim of the present study was to assess the degree of psychological distress among suicidal patients.

#### **Research questions**

What are the psychological distress among suicidal patients?

## Subjects and Methods

**Research design:** A descriptive research design was utilized in this study

**Setting of the study:** The study was conducted at EL Minia Poisoning Control Center which was developed in 2003 in EL Minia University hospital, the capacity of the center is 20 beds for inpatients and 5 beds for emergency. This center serves EL Minia governorate.

**Subjects & sample**: A convenience sample consisted of 50 adult male and female suicidal patients admitted to the inpatient at EL Minia Poisoning Control Center were included in the study. The patients' age ranges from 20-50 years old and they attempted suicide once or more by drugs and/or insectside.

#### **Tools of data collection:**

# 1- socio-demographic and clinical data questionnaires:

This questionnaire developed by the researcher, it included personal data such as patient age, gender, level of education, occupation, marital status, residence, phone number if available, diagnosis, date of admission, number of suicidal attempts, and methods of suicide.

#### 2- Hamilton Depression Scale

The scale was developed by Max Hamilton (1960) for measuring depressive symptoms and their intensity. It consists of 17 items. The scoring system was as follows: items from 1-8 have five points likert scale ranging from 0-4, and items 9-17 have three points likert scale ranging from 0-2. The total score of the scale was classified as normal (0-7), mild depression (8-13), moderate depression (14-18), severe depression (19-22), and most severe depression (23 and more). The scale was translated to Arabic language in (1996) by Fatieem. The Arabic version was used and its test-retest reliability was done and equal to 0.95.

#### **3-Pierce Suicide Intent Scale:**

The English version of this scale was developed by Pierce (1977); this scale is a modified version of the Beck Suicide Intent Scale (1974). It consists of 12 items, divided into three subscales: the first six items described "circumstances score", from "items 7 through 10 describe self-report score, and the last two items describe "medical risk score". It was translated into Arabic version by the researcher and was revised by supervisors in psychiatric nursing and medicine for content validity, and professors in English and Arabic languages. Subjects were asked to use 3-point likert scales ranging from 0-2 except for the item of premeditation that ranges from 0-3. The total score was 25; the grades are distributed as low intent (0-3), medium intent (4-10), and high intent (more than 10) test-retest reliability of translated and back translated versions was 0.96.

#### Procedure

-A review of the related literature which covering various aspects of the problem was done, using available books and journals, to get acquainted with the research problem and to implement the study. An official permission was granted from hospital authorities to proceed with the study.

-The purpose of the study was explained to the subjects and verbal consent was taken from each participant for participation in the study. The investigator assured the voluntary participation and confidentiality to each subject who agreed to participate.

-The investigator collected data over a period of nine months through interviewing participants for about one to two hours every day for every patient in one of the rooms of the poisoning control center.

#### **Pilot Study**

A pilot study was conducted at the beginning of the study. It included 10 cases of the total sample to investigate the feasibility of data collection tools for their content validity as well as clarity. A total of 10

subjects were recruited for the pilot study. All subjects recruited in the pilot study met the criteria for the inclusion in the study. Subjects included in the pilot study were excluded from the actual study sample and results of the pilot study were not included in the current study.

#### **Statistical Analysis**

Data were analyzed using the statistical package for social science (SPSS) version 11.5 Numerical data were expressed as mean and SD. Qualitative data were expressed as frequency and percentage. For quantitative data, comparison between two variables was done using t-test, and comparison between more than two variables used ANOVA test. Relations between different numerical variables were tested using Pearson correlation. Probability (p-value) less than 0.05 was considered significant and less than 0.001 was considered highly significant.

#### **Ethical consideration**

Participation in the study was voluntary; each subject had the right to withdrawn from the study when he or she wanted. And oral informed consent was obtained from participant. Confidentiality and anonymity of the subject were assured through coding.

#### **Results:**

Table(1):Frequency distribution of the studied subjects according to personal data (n= 50)

Items	No	%
1-Age		
• 20 < 30	35	70.0
• 30<40	9	18.0
• 40 or more	6	12.0
• Mean±SD	28.38	±9.28
2-Level of education		
• Illiterate	24	48.0
Secondary school	21	42.0
• University	5	10.0
3-Occupation		
• Employed	16	32.0
• Unemployed	34	68.0
4-Marital status		
• Married	26	52.0
• Single	24	48.0
5-Gender		
• Male	20	40.0
• Female	30	60.0
6-Residence		
• Urban	9	18.0
• Rural	41	82.0
7-Method of suicide		
• Insectside	39	78.0
• Drugs	11	22.0

Table (2): Frequency distribution of the levels of
stress, depression, and suicide intent among the
studied subjects (n=50)

Kotb et al.,

Items	No	%
1-Stress		
• Low	-	-
• Average	3	6.0
• Bad	27	54.0
Dangerous	20	40.0
2- Depression		
• Normal	-	-
• Mild	-	-
Moderate	5	10.0
• Severe	10	20.0
• Most severe	35	70.0
3- Suicide intent		
• Low intent		
Medium intent	2	4.0
• High intent	48	96.0

Table (3): Differences of stress, depression, and suicide intent in relation to gender among the studied subjects (n=50).

Items	Items Mean ±SD		Р
Stress			
Males	75.45±10.19	3.39	.001
Females	85.03±9.51		
Depression	2.00	0.41	
Males	26.15±8.41	2.09	.041
Females	30.90±7.46		
Suicide Intent			
Males	14.20±2.78	3.19	.002
Females	16.87±2.95		
* P<0.05	** P<0 000		

Table (4): Differences of stress, depression, and suicide intent in relation to occupation among the studied subjects (n=50).

Items	Mean ±SD	Т	Р
Stress			
Employed	76.00±10.29	2.45	.018
Unemployed	83.65±10.26		
Depression			
Employed	26.06±8.77	1.79	.079
Unemployed	30.38±7.53		
Suicide Intent			
Employed	14.38±2.87	2.28	.027*
Unemployed	16.47±3.08		
* P<0.05	** P<0.0	0	

Table (	5): Diff	ferenc	es of s	tre	ss, depress	ion, and	
suicide	intent	in re	lation	to	residence	among	the
studied	subjec	ts (n=	=50).				

Items	Mean ±SD	t	Р
Stress			
Urban	75.00±8.76		
Rural	82.56±10.80	1.95	.05
Depression			
Urban	23.00±5.78		
Rural	30.32±8.01	2.58	0.01
Suicide Intent			
Urban	13.22±2.10	2.91	.005**
Rural	16.37±3.07		

\* P<0.05 \*\* P<0.00

Table (6): Differences of stress, depression, and suicide intent in relation to methods of suicide among the studied subjects (n=50).

Items	Mean ±SD	Т	P
Stress			
Insectside	81.85±10.74	.795	.431
Drugs	78.91±11.15		
Depression			
Insectside	29.31±8.44	.501	.619
Drugs	27.91±7.10		
Suicide Intent			
Insectside	16.08±3.04	1.17	.292
Drugs	14.82±3.45		

Table (7): Correlation among stress, depression, and suicide intent among the studied subjects (n=50).

Items	Stress		Depressio n	Suicide intent
Stress	r	1		
	Р	•		
Depressi	r	.696	1	
UI	Р	.000	•	
Suicide	r	.720	.660	1
intent	Р	.000	.000	

**Table (1)** showed that, the studied sample consisted of 50 patients, 70% of them their age ranges from **20<30** years old. 48% were illiterate, **while 68%** of the sample were unemployed, 52% of the sample were married, 60% of the sample were females, and 82% were residing rural area.

**Table (2)** revealed that, 54% of the studied sample had bad level of stress, 70% had most severe level of depression and 96% of them had high intent for suicide.

Table (3) reveals that, the total mean scores for stress, depression, and suicide intent were higher among female than male patients ( $75.45\pm10.19$ ,  $30.90\pm7.46$ , &  $16.87\pm2.95$  respectively). There were statistically significant differences between males and females regarding stress, depression, and suicide intent (t=3.39, 2.09, & 3.19 at p=.001, .041& .002 respectively).

Table (4) shows that, the total mean scores of stress and depression, and suicide intent were higher among unemployed patients (83.65±10.26, 30.38±7.53, & 16.47±3.08 respectively). Statistically significant differences were found between employed and unemployed regarding stress and suicide intent (t=2.45, 2.28 at p=.018, .027 respectively).

Table (5) declared that, the total mean scores ofstress, depression, and suicide intent were higheramongruralpatients(82.56±10.80,30.32±8.01&16.37±3.07respectively).Statisticallysignificant differences were found between urban andrural groups regarding stress, depression, and suicideintent (t=1.95, 2.58, 2.91& at p=.05, .01& .005respectively).

Table (6) demonstrated that, the mean scores for stress, depression, and suicide intent were higher in the patients who ingested insectsides than patients who received oral drugs (81.85±10.74, 29.31±8.44, 16.08±3.04respectively).

Table (7) represented statistically significant positive correlation was found between stress, depression ( $\mathbf{r}$ = .696 at p=.000). Also, it was found that, there was a significant statistical positive correlation between stress and suicidal intent (.720 at p=.000). Moreover, it was noticed that depression was positively and significantly correlated with suicide intent ( $\mathbf{r} = .660$  at p=.000).

## Discussion

The present study revealed that, the majority of the sample had a bad level of stress; most sever level of depression, and the highest level of suicide intent (table 2). This result was in agreement with **Sharaf** (2002) who reported that, comorbid depression was found to be a significant risk factor for suicide, since a positive association between degree of depression and suicidal risk was profound. In other words, the severity of depression significantly increased the probability of suicide.

The present study revealed that, the majority of the sample were younger, females, illiterate, unemployed patients and living in rural areas (table 1). These results could be due to that the younger patients have high expectation as being creative, and in the age of production and goal achievement, and yet those aspects didn't achieve in those patients due to unemployment which leads to inability to achieve goals, feeling of dissatisfaction, consequently they become overwhelmed with stress which leads to depression and hopelessness and finally suicidal attempts. This result in agreement Luoma & Pearson, (2002) reported that, suicide among younger people is a major health problem in many societies, which may be due to loss of social cohesion, breakdown of traditional family structure, growing economic instability and unemployment, and raising prevalence of depressive disorders. In addition, this result contradicted with Buchman (1995) who reported that, the suicidal rate for adults is the highest rate for suicide than any age group.

As regards gender, there were statistically significant differences between males and females regarding stress, depression, and suicide intent (table 3). This result may be due to females are more fragile, overwhelmed by many duties as child bearing and rearing, home activities, working which increased their exhaustion and they are more psychologically affected; so the level of stress increased and depressive symptoms which leads to suicide attempts. This result was contradicted with Cheng & Lee, (2000) who reported that the rates of suicide in most countries, including Denmark, are higher in males than in females. China is one important exception, with very high rates in females, especially young women. In recent years, several countries have experienced an increase in suicidal rates in males, particularly in the younger age groups (Cantor, 2000).

As regards occupation, the results of the present study revealed that, about two thirds of the studied sample were unemployed (table 1). The unemployed group had the highest percent of suicidal attempts compared with other groups and there was a significant statistical difference between stress and suicide intent regarding occupation (table 4).

The previous results might be related to that, unemployment could be a stressful life event which preventing them from achieving their goals and needs due to financial problems. Additionally, it prevents more interaction with different categories of people from whom they can learn and gain experiences in solving problems and management of stressful life events. So, the severity of stress, feelings of hopelessness, depression were increased which leads to increase their suicidal tendency and attempts.

This result was in agreement with a study conducted in Assuit City by **Ahmed** (2005), who reported that, more than half of the sample were unemployed (54%). Also, result of the current study was in agreement with **Wilson**, (2009) who reported that, unemployment is one of many factors that contribute to suicide risk. In this respect, **Jones, et al.**, (1991), in their study of the role of unemployment in parasuicide, they found a strong significant association between unemployment and self poisoning.

In relation to residence, the majority of the sample were from the rural areas (table 1). Also, the present study revealed that, statistical significant differences were detected between stress, depression, and suicide intent regarding residence. Moreover, the highest mean scores for stress, depression, and suicide were present among patients who residing rural areas (table 5). This result may be due to rural areas circumstances where the unavailability of resources and facilities, beside the culture beliefs and stigma of psychiatric disorders that make it difficult for rural people to ask about psychiatric advices or visiting psychiatric clinics. So, the symptoms of stress increased with the symptoms of depression and feeling of hopelessness which leads to suicide.

This finding was supported by Garran (2007), reported that, People living in rural and remote areas and experience considerable difficulties may hardship, including financial difficulties and isolation, and they may not have access to support services during tough times. They are more likely to have greater access to means of suicide that lead to immediate death. Suicide rates in rural and remote areas are significantly higher than the national average and very remote regions have suicide rates more than double that of major capital cities. At the same point McFul, et al., (2009) who found suicidal rates in rural areas were significantly higher than they were in urban areas. However, it was in disagreement with Fujita (2003) who reported that, the recent increase in the number of suicide has been significantly more prominent in urban areas than in rural areas.

In relation to methods of suicidal attempts, the current study revealed that, more than three quarters of the sample were attempting suicide through ingesting an insectside, while the other quarter attempted suicide through ingesting oral drugs (**table 1**). This result may be due to the feeling of severe stress and depression of those patients who wanted ending their life by themselves and the majority of the sample from rural areas where the availability of organophosphrous as insectside or pesticide for insects or for agricultural reasons they ingesting it.

In this respect, **Pradhan (2008)** reported that, two million suicide attempts involving organophosphorus compounds occur each year worldwide. India ranks second in Asia in annual pesticide. More over, **Engl** 

79

(1998) who studied the characteristics of 164 patients with organophosphorus poisoning reported that, most of the patients (74.4 percent) had consumed these agents to attempt suicide. Phosphamidon was the agent most frequently ingested.

In the same context, Eddleston (2007) explained that, "Organophosphorous pesticide self-poisoning is a major clinical health problem across much of rural Asia. Of the estimated 500,000 deaths from self-harm in the region each year, about 60% were due to pesticide poisoning". Furthermore, they said that, about 200,000 deaths, 60% of the total, are specifically due to organophosphorus poisoning. The Center for Disease Control (2009) reported that, poisoning is the most common method used by females (40.3%). The current study revealed that, no statistically significant difference was detected between stress, depression, and suicide intent regarding methods of suicidal attempts (table 6). This result indicated that, all of the studied sample were suffering from stressful life events and depression and their severity increase their intent for suicide that made them to attempt suicide with the available method that they think it will leads to death even drugs or insectsides.

The current study also revealed that, there was a positive correlation between stress and suicide intent (table 7). This finding indicated that, the presence of stress symptom in combination with severe depressive symptom, all are strong factors to hinder the patient ability to cope or interact with others which, will increase his/her tendency for suicide and suicidal attempts. This was in agreement with the Gates (1994) who reported that, though many individuals experience varying degrees of life "stress", some individuals are more vulnerable to the effects of stress on their mood and depressed/ suicidal thinking. Specifically, a number of cognitive risk factors, that include interpersonal problem-solving deficits, perfectionism, hopelessness, and other distorted cognitions, may influence how and to what extent negative life events influence our mood and potential for suicidal thinking.

The current study revealed that, there was a positive correlation between depression and suicide intent (table 7). This finding was supported by Peyeler, et al., (2002) who reported that, depression is common amongst people who self-harm, both in those who habitually self-harm by for example, self-cutting, without suicidal intent and in those who may have suicidal intent when they self-harm, in people who have self-harmed, depression and impulsivity have been shown to be strongly associated with the strength of the intent to die by suicide.

## Conclusion

Based on the result of the present study it can be concluded that, suicidal patients were suffering from multiple stressors with severe depressive symptoms, and they think that death is the only solution for these stressors, which leads to high intention for suicide.

## Recommendations

- A structured counseling program should be 1developed for patients' families and friends to promote their ability for coping with stress and depression, providing them with needed social and emotional support, in order to prevent symptoms recurrence and suicidal attempts.
- Periodical checkups for depressed patients to 2assess their tendency for suicide is mandatory.
- For suicidal patients, group activity sessions, 3creative non competitive activity, and teach them the social skills for interaction with others, and how to cope with stress, and suicidal ideation.

# References

- 1. Ahmed, Z. (2005). Assessment of social and communication skills of depressed patients. Master thesis, Faculty of Nursing, Assuit University.
- 2. Ain Shams Center, (2008). Ain Shams poisoning Control Center. Ain Shams University. The last statistics from 1/1/2008- 31/12/2008.
- 3. Amr M., (2006). Suicide statistics. Poisoning center. Cairo University.
- Bricker, P. (1996). Psychiatric mental health 4. nursing. (pp 614-636). New York: Springer
- 5. Buchman, B., (1995). Suicidal thoughts and self transcendences in older adult. Journal of Psychosocial Nursing, (33), 10, 31-34.
- Cantor, C., (2000). Suicide in the Western 6. world. In The International Handbook of Suicide and Attempted Suicide. pp. 9-28. British Journal of Psychiatry 177:484-485.
- 7. Centers for Disease Control (CDC), (2009). International suicide prevention. Available at: http:/www.yahoo.com.
- 8. Cheng, A., & Lee, C., (2000). Suicide in Asia and the Far East. In The International Handbook of Suicide and Attempted Suicide. pp. 121-135.
- 9. Eddleston, M., (2007). Proper Management of Organophosphorus Pesticide Poisoning Might reduces Global Suicide Rates. Written by: Christian Nordqvist.Medical News Today. http://www.lancet.com.
- 10. Engl, J., (1998). Organophosphorus poisoning in Kashmir valley. 338: 1078-1079 April 9.
- 11. El Wan, S., (2007). Suicide statistic in Egypt. Weekly News Paper.

- 12. Fatieem, L., (1996). Hamilton depression scale. Available at:www. CBTarabia.com
- 13. Frisch, N., & Frisch, L. (1998). Psychiatric mental health nursing. ,( pp. 296-312). United States of America. Delmar publishers
- 14. Fujita, (2003). The effectiveness of suicide prevention of a community multimodal intervention program,. Available at: http://www.yahoo.com.
- **15. Gates, (1994). Stress and suicidality**. Avaliable at www.yahoo.com
- **16. Garran, R., (2007).** Education and research programs for rural areas. Centre for Rural and Remote Mental Health NSW (CRRMH).
- 17. Hamilton, M., (1960). Hamilton depression scale. Available at: http/www. Google.com.
- 18. Jones, S., Laster, D., & Hassonyeh, F., (1991). The role of employment In parasuicide . Psychological Medicin.21(1),169-176.
- **19. Klein, D., Torpey D., Bufferd S., (2008).** Depressive disorders. In: Beauchaine TP, Hinshaw SP, editors. Child and Adolescent Psychopathology. pp. 477-509.
- **20.** Luoma, J., & Pearson, J., (2002). Contact with mental health and primary care prior to suicide. American Journal of psychiatry.159:909-916.
- 21. McFaul, M., Ciarlo J., & Demmler J., (2009). Addressing Suicide Potential and Prevention in Rural and Frontier Areas: Suicide Prevention Toolkit for Rural Primary Care Providers. Western Interstate Commission for Higher Education Mental Health Program.
- Michelle, M., & Andrew M., (2007). Stress and suicide. Medical College of Wisconsin. University of Wisconsin Milwaukee University of Wisconsin. Available at: http /www. Psychologyinfo.com..
- **23.** Pender, N., (2002). Health promotion in Nursing Practice (4<sup>th</sup> ed.). Upper Saddele River, NJ: Prentice Hall.
- 24. Peyeler, R., Carson A., & Rodin G., (2002). ABC of psychological medicine. Depression in medical patients. British Medical Journal 325, 149-152.
- **25.** Pierce, D., (1977): Suicide Intent Scale. Pierce intent of self-injury. British Journal of Psychiatry. 130; 377-385
- Pirkis, J., & Burgess P., (1998). Suicide recency of health care contacts. Br. J. of Psychiatry, 17-3 (1),472.
- **27. Pradhan L., (2008).** Effectiveness of an educational program to promote pesticide safety among pesticide handlers of Sourth India. International Archives of occupational and Environmental Health 81: 6, 787-795.

**28. Price**, **P.**, **(2004).** All about depression. (National Institute of Health Publication) available

Kotb et al.,

- **29. Sharaf, A., (2002).** The effect of supportive group therapy on suicidal correlates among psychiatric patients. Doctoral Thesis, Faculty of Nursing, Alexandria University.
- **30.** Stone, & Geo, (2008). Suicide and Attempted Suicide: Methods and Consequences. New York:. ISBN 0-7867-0940-5
- **31. Wilson, A., (2009).** Unemployment can triple the risk of suicide. Suicide prevention resource center. Available **at:http://www.google. Com.**