Psycho-social and Clinical patterns of Suicide attempt by Burning

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الأنماط النفسية والاجتماعية والسريرية لمحاولة الانتحار بطريقة الحرق

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الخلاصة:
الهدف:هو دراسة الأنماط النفسية والاجتماعية والسريرية لمحاولة الانتحار بطريقة الحرق.طريقة البحث: تم إجراء هذه الدراسة على 72 حالة محاولة انتحار بطريقة الحرق من أصل 912 حالة حرق ادخلت الى وحدات الحروق في اربع مراكز طبية للحروق في بغداد (الكرخ، الواسطي، الامام علي، الكندي) من ١٥ مايس٢٠٠٨ حتى٣١ كانون الأول عام ٢٠٠٨ وقد تمت دراسة خصائصهم الاجتماعية والنفسية والسريرية النتائج: دلت نتائج الدراسة أن حالات محاولة الانتحار بطريقة الحرق تشكل 7.9% من مجموع حالات الحروق التي أدخلت مراكز الحروق في نفس الفترة الزمنية للدراسة ، وأن المتوسط العمري لحالات محاولة الانتحار بطريقة الحرق هو 30 عام ، وأن 50% من الحالات تتراوح أعمارهم مابين 25-35 عاما ، وكانت الغالبية العظمى من النساء . وكان المتوسط الكلي لنسبة حرق الجسم هو 62.5% . ودلت النتائج كذلك أن 41.6% من المرضى كان لهم محاولات سابقة لحرق أنفسهم ، وأن معدل الوفيات كان 69.4%.وتظهر الدراسة أن 75% من الحالات كانوا يعانون من اضطرابات نفسية حيث أن أغلبيتهم شخصوا باضطراب سوء التكيف ، وأن 25% من الحالات كانوا يعانون من مشاكل اجتماعية أو عائلية أو زوجية . هناك بعض التوصيات في هذه الدراسة للوقاية والحد من هذه الحالة.

Abstract:
Objectives: are to study the psychosocial characteristics and clinical patterns of patients with burn attempted suicide.
Methods: 72 patients with burn attempted suicide out of a total of 912 patients admitted to the burn units of four centers in Baghdad from 15thMay 2008 to 31stDecember 2008 were studied. General Health Questionnaire (GHQ), Socio-demographic data and Diagnostic Statistical Manual 1V (DSM-IV) were used in the study.
Results: Burn attempted suicide (BAS) represents 7.9% of all admissions and is more common among females (n=61) than males (n=11). Half of the cases were between 25 and 35 years of age with the mean age of 30 years , all males and the majority of females (66.7%) were married .The mortality rate was 69.4% and the median total body surface area (TBSA) burnt was 62.5% . 41.6% of patients (n=30) had previous attempt for burn attempted suicide (BAS).75% of subjects had a psychiatric diagnosis, of which the most common diagnosis was adjustment disorder (41.6%). while the other (25%) hadn't mental illnesses.
Conclusion: Burn attempted suicide are relatively common in burn units.

Introduction:

Parasuicide (attempted suicide) is defined as an act of deliberate self-injury or self-poisoning which mimics the act of suicide but does not result in a fatal outcome; the term indicates a behavioral analogue of suicide but without conveying a psychological orientation towards death. (1, 2).The term (non-fatal) deliberate self-harm avoid all

reference to suicide, and merely describes the common end-point of aberrant behavior. Deliberate self-harm term is widely used by the Royal college of Psychiatrists and it is the preferred term (3, 4).The burn is a big stressor and major threat to life and well being; most of cases in the burn units presented with psychiatric co morbidity and burn might be presented as DSH. The core features of DSH are: The behavior is self-initiated and non- habitual, self-harm is intended, the act result, or may result, in injury and possibly death to the individual. (1).Medical presentations where injury results from intentional non-compliance would fall within this definition but are generally regarded as distinct(5).The reason why a patient self-harms are varied, usually multiple, and sometime complex; nevertheless it is important to establish the key motives to form an appropriate management plan. The motives patients report on assessment after DSH may not be what they would have said when they decided to harm themselves during the act. (6).Motives associated with DSH is: Wish to die, time out, cry for help, communication with others, unbearable symptoms. The social variables which appear to operate most frequently in DSH include: adverse life events and socio-economic factors, notably unemployment (1). Generally they have more life events than depressed controls, more undesirable, more uncontrolled events and most events are major and intermediate in upset ,events of a threatening nature are more closely linked to DSH, (7,8,9).The clinical variables which appear to operate most frequently in DSH include: Major depression, personality disorder, substance abuse, psychosis , factors specific to women, adjustment disorder. (6, 10,11).

Repeated deliberate self-harm among all DSH hospital admissions was in the range of 40-60%. Studies report 1-2 year follow-up rates of repeated admission was in the range 12-26% with a median of 16%.In a recent systematic review of outcome the 1-year repetition rate was found to be 15%. Repetition is much more likely to occur early, for example Bancroft & Marsack (1977) found 10% of their sample had their repetition within the first 3 month, 6% in the following 9 months and only a further 2% during the second year.(12,13). Features that predict repeated deliberate self-harm are: unemployment. lower social class, criminal record. previous DSH, high suicidal intent, hopelessness, past psychiatric history, substance misuse, non-compliance for treatment(1 ,12).Burn attempted suicide(BAS) have been considered a serious mental health problem throughout the world and especially in economically developing countries as in Jordan(6).Suicide by burning, although generally uncommon in England and Wales, is common in South Asian women (14).Self-immolation among young Muslim women in parts of the Middle East and central Asia is increasingly becoming a cause of death and disability and very little is known about this phenomenon .Male victims generally predominated in Western countries, and females in the Middle East and the Indian sub-continent(15,16).In Jordan, burn attempted suicide by kerosene is a common, traditional and dramatic way of attempting suicide by females and 13.5 percent of suicidal deaths were due to fire burns and scalds(17).DSH in developing countries may go unreported and many victims never reach medical attention, being construed as accidents to avoid social stigma.

This study may raises many issues, one of them is to understand the cultural background of this phenomenon. Doctors working in primary care and general hospitals see many patients who have harmed themselves deliberately. It is important that these doctors have the knowledge, and skills to identify the minority of such patients who are at high risk for a further act of self-harm either fatal(suicide) or non-fatal (2).When people harm themselves deliberately they use various methods which fall in to two groups: drug over dosage and self injury. Deliberate self-harm is common accounting for about 10 percent of acute medical admission. This figure does not include minority

of self-harm patients who are seen by general practitioners but not send to hospital because the medical risks are low. Deliberate self-harm is more common among the following groups: younger adults (the rate declines sharply in middle age and are very low in children under the age of 12 years),women particularly those aged 15-30 years ,people of lower social class, divorced people, teenage wives and younger single people. Aims of the study: To study the psychosocial and clinical patterns of burn attempted suicide and the role and profile of the various socio- demographic factors in relation to burning attempted suicide in a group of Iraqi patients in burn units.

Patients and Methods:

Throughout a period from the 15th of May 2008 to the 31st of December 2008,72 patients with burn attempted suicide (BAS) out of 912 patients admitted to the burn units of four centers in Baghdad (Al-karkh, Al-wasity, Al-kindy, Al-emam Ali)were studied. The exclusion criteria included accidental burns and the uncooperative patients A self rating General Health Questionnaire (GHQ) was submitted to all patients. A score more than 5 determined the probable cases that were at risk.

Each patient was assessed individually using a semi-structured interview that include the demographic characteristics , precipitating factors , methods used for (BAS) , total body surface area (TBSA) burnt, and outcome .Psychiatric diagnoses were assigned according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (18) .Consents of the patients and their relatives were taken.

The results arranged and tabulated statistically. The data were analyzed using degree of freedom (df), odds ratio (o), and contingency coefficient (c) were computed for the differences between groups.

Results:

The study showed that (BAS) represents 7.9% (n=72) of the total admissions (n=912) to burn units over the same period and is more common among females 84.7% (n=61) than males 15% (n=11) with a sex ratio female: male of 6:1. 66.6 %(n=48) of the sample were married, 19.4% (n=14) were divorced or widowed and the other 13.8% (n=10) were single. All men (n=11) were married.Five cases(6.9%) with (BAS) were below 25 years of age , 50% (n=36) were between 25-35 years, 16.6% (n=12) were between 35-45 years.

The most common method used for (BAS) was pouring kerosene and benzene over themselves and setting light to it (n=48) 66.7%, (n=17) 23.6%, respectively, the other (n=5) 6.9% used domestic gas to cause an explosion , 41.7% of the cases (n=30) had previous attempt. The median total body surface area burnt was 62.5% and the mortality rate was 69.4%.Among the 72 cases of (SIB) 75 % (n=54) were given psychiatric diagnoses, and 25% (n=18) were found with no mental illness but having social, family or marital problems. The most common diagnosis was adjustment disorder (41.7%)(n=30), the second was major depressive disorder (13.9%) (n=10), but 8.3% (n=6) had schizophrenia, 6.9% (n=5) had personality disorder, 2.8 (n=2) had alcohol and/or drug abuse and 1.4% (n=1) had dementia.The results are shown in the following tables:

Table(1) distribution of patients with burn attempted suicide according to age and sex:

Ag Distribution (year)	Number of male patients	Number of female Patients	Total number patients	Percentage
<25	0	5	5	6.9%
25-35	8	28	36	50%
35-45	0	12	12	16.7%
45-55	0	5	5	6.9%
>55	3	11	14	19.4%
Total	11	61	72	(100)%

df =4 o =1.589 c =0.67

Table(2)number of patients with burn attempted suicide according to marital status:

Marital Status	Number of patients	Percentage
Single	10	13.9%
Married	48	66.7%
Divorced or Widowed	14	19.4%
Total	72	(100)%

df =2 o =2.405 c =0.58

Table(3)number of patients with burn attempted suicide according to job status:

Job Status	Number of patients	Percentage
Employed	12	16.7%
Unemployed	52	72.2%
Retired	8	11.1%
Total	72	(100)%

df =2 o =2.932 c =0.64

Table(4) number of patients with burn attempted suicide according to total surface area burnt

Surface area burnt %	Number of patients	Percentage
<25	8	11.1%
25-50	18	25%
50-75	43	59.7%
>75	3	4.2%
Total	72	(100)%

df =3 o =1.983 c =0.65

Table(5)number of patients with burn attempted suicide according to level of education:

Level of education	Number of patients	Percentage
Illiterate	30	41.7%
Primary school	21	29.2%
Secondary school	16	22.2%
Higher than secondary school	5	6.9%
Total	72	(100)%

df =3 o =1.486 c =0.45

Table(6)number of patients with burn attempted suicide according to residence:

Residence	Number of Patients	Percentage
Rural	51	70.8%
Urban	21	29.2%
Total	72	(100)%

df =1 o =2.832 c =0.4

Table(7)number of patients with burn attempted suicide according to family income:

Family income	Number of patients	Percentage
Poor	62	86.1%
Average	8	11.1%
Above average	2	2.8%
Total	72	(100)%

df =2 o =6.348 c =0.75

Table(8) number of patients with burn attempted suicide according to previous attempt:

Attempt	Number of patients.	Percentage
Previous attempt	30	41.6%
No-previous attempt	42	58.3%
Total	72	(100)%

df =1 o =2.113 c =0.16

Table(9) number of patients with burn attempted suicide according to psychiatric diagnosis:

Psychiatric diagnosis	Number. of patients	Percentage
Adjustment disorder	30	41.6%
Major depressive disorder	10	13.9%
Schizophrenia	6	8.3%
Personality disorder	5	6.9%
Alcohol and / or drug abuse	2	2.8%
Dementia	1	1.4%
No mental illness	18	25%
Total	72	(100)%

df =6 o =1.417 c =0.684

Table(10)comparison of the number of patients with burn attempted suicide to the number of patients with accidental burns :

Type of burns	Number of patients	Percentage
Self- inflicted burns	72	7.9%
Accidental burns	840	92.1%
Total	912	(100)%

df =1 o =11.746 c =0.95

Table(11)number of patients with burn attempted suicide according to burning agents:

Burning agents	Number of patients	Percentage
Kerosene	48	66.7%
Benzene	17	23.6%
Gas	5	6.9%
Other	2	2.8%
Total	72	(100)%

df =3 o =2.415 c =0.71

Table(12) number of patients with burn attempted suicide according to outcome :

Outcome	Number of patients	Percentage
Death	50	69.4%
Survivor	22	30.6%
Total	72	(100)%

Discussion:

Burn attempted suicide in our country is more likely unreported as the patients and their families deny the act and claim the incident of burn as an accident to avoid social stigma and legal problems. In this study , 84.7% of cases were women , and most of them were married and between 25 - 35 year of age ,most likely due to cultural pressures, availability of methods and materials .The preponderance of women in the present sample is consistent with a typical pattern in Middle East and Indian subcontinent (19,20,21).An estimated 40-50% of people who commit self-inflicted burn are thought to have made previous attempts (12,13).41.6% of the sample from the present study had previous BAS. The most common method of BAS was pouring kerosene over themselves and setting fire to it. The median extent of burn was 62.5% of total body surface area with the top of the body mainly affected.

The mortality rate is 69.4% and is higher than in other Asian countries, most likely due to deficiency of medical supplies (19).Mortality in BAS was higher than that of accidental burns and the survivors had long hospital stays and suffered severe disfigurement The poor outcome from BAS could be improved by well-coordinated multidisciplinary patient management with early psychiatric team involvement.

75% of subjects with BAS were given psychiatric diagnoses and the most common diagnosis was adjustment disorder and this is associated with multiple well known an identifiable life stressors ranging from loss of job, school, financial difficulties to familial, cultural pressure, tradition arranged enforced marriage, separation and parental loss. The data illustrated that marital disharmony represents the main precipitating factor of BAS.25% percent of subjects were found with social , familial or marital problems; some women may resort to self-immolation as a method of expressing their anger and dissatisfaction at their current social state. This highlights the need for taking preventative measures, which should be focused on family structure, particularly in relation to marriage.(22). we have found that high number of patients with BAS is in ages between 25-35 years and this may be explained that our country is suffering from difficult economic and social situations and people in this age group are bearing most of the burden of these situations, in addition to the sequel of two wars, sanction, and burden of life changes. Females out number that of males. This may be explained by tendencies in females to have mental disturbances more than males and availability of methods and materials. High number of patients with BAS were in group of the married, divorced and widowed because each group has its own stress in our difficult socio- economic state and being responsible for many family demands. BAS was high in the unemployed, this may be due to their financial problems, lack of economic resources , social insecurity and their psychological effect of being without work (9).

Regarding severity of burn in relation to BAS, we have found that BAS increase with increasing severity of burn , in moderate and severe burn , while we have less or no BAS in minor burns.

- Education : the large portion of our sample is having illiterate to primary school level and small portion having education higher than secondary school.
- Place of residence: the patients of BAS from rural area are more than patients from urban area, most likely due to lack of rights and the burn might be the only way for escape.
- Income of patients: depending on information taken from patients and their relatives ,it was shown that the majority of patients are of poor and average income , the only income provided by husbands and no another sources and

the payments were less than 150,000 ID. Those three observations (low level of education, poverty , and low social state) have higher risk of BAS.

Depending on history from patients and their relatives about circumstances of the BAS and also from notes of the staff of burn units, we have found that some patients deny completing the information whether the burn is self-inflicted or accidental. It is found that those patients with BAS have higher risk of suicide in all ages compared with the general population (5).

- Alcohol intake: alcohol is a problem in western countries but in our sample two patients only have it and not to the degree of dependence.
- Psychotropic medication: in our sample, there is a history of use of antidepressant (TCA), antipsychotic; anxiolytics drugs .All patients who use these medications have psychiatric illnesses before the BAS.

We do not have information on previous psychiatric hospital admission but our observations are: depressive disorders were in twelve patients, chronic schizophrenia in five patients, dementia in one patient and four patients with personality disorder.

When we compare our study with other studies we find that it is rather alarming to find self-inflicted burn by kerosene, and also nearly 14% of suicide is caused by fire burns and scalds. One couldn't stop himself from trying to link this horrific act of self-inflicting maximum pain and punishment with other socio-cultural issues which have been kept burning underneath the surface for sometime (19).The preponderance of women in our study and in the Jordanian sample is consistent with worldwide pattern ;(19,,22).

We are aware of another similar study by Haberal and Bilgin from Turkey , studying self-inflicted burns and this study has some interesting results: that male preponderance and psychiatric illness was found in 31% of the sample. Self-burning as a method of suicide is relatively common in Israel (77%).(17,19,21).

In another study by Haider and Haider from Pakistan , some more explanations for the gender difference in self-burning behavior were given: females have no systematic career system, no social or economic freedom and have to face discrimination(16).

Despite all these possible explanations, one would need to be aware also of unreported psychological symptoms of mental illness due to stigma and its impact on help seeking behavior. Our study touches an important topic that has not received much attention. Suicide is a major public health issue in the world and incidence of deaths from burning varies among countries, and even communities within the same country.

Our study show that adjustment disorders were the commonest mental illness among this group, while other studies (1,3) showed that schizophrenia and depression are the most common psychiatric diagnoses.

The total surface area of burn was 62.5% compared with Haddad et al 48%, and death rate was 69.4% compared with only one third in Scully and Hutcherson study(17,20).It is likely that there is a correlation between the surface area of burn and death rate or possibly there is other co-morbidity,

The high suicide rate among young Asian women was due to cultural pressures, conservative parental values and traditions such as arranged marriage which may clash with the wishes and expectations of young women themselves (20).

We can look for the main motive and dynamics of using this violent tragic method of suicide and the role of media in that suicide prevention strategies and programmes will depend on identification of risk factors, which will need to be extracted from well-planned studies. In addition prevention strategies must ensure access to integrated

mental health services with effective diagnosis, treatment and support for the patients and careers.

Conclusion:

The findings of the present study suggest that burn attempted suicide is relatively common in burn patients. Adjustment disorder and patients with no mental illnesses are predominant in patients with burn attempted suicide. A close association between the severity of burn and burn attempted suicide and between (adult-age, female sex, married, divorced or widowed, unemployed) and SIB were found. Considerable number in the sample presented from rural area.

Recommendations

We recommend that patients with an abnormal psychological profile including suicidal ideation , be adequately monitored and regularly followed by mental health professionals. Burn care professionals should be familiar with burn attempted suicide patients who require constant psychiatric support by multidisciplinary team. The need to study the effect of previous psychiatric illness on burnt survivors. Regarding patients with (BAS) and in view of the considerable psychiatric morbidity of these patients , there is a need for : Consultant-liaison psychiatrists to provide services to burn units.

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