SELF-INFLICTED BURN AS A METHOD FOR SUICIDE AT AL-DEWANYEA CITY, IS IT A COMMON METHOD AND WHAT ARE THE CHARACTERISTICS OF THE VICTIMS?

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ABSTRACT

Suicide is a very stigmatising condition in Iraq and perceived stigma by the public make recorded data about the subject far from accurate. So researching this interesting phenomenon remains a very important step in evaluating its impact on society in general. The aims of the study were. To compare between numbers of victims of self-inflicted burn with the official police suicide statistics that is recorded each month in the city and to identify the socio-demographic characteristics of the patients in addition to their past psychiatric history. During the year 2018 any patient admitted to the burn centre at al Dewanyea with a suspicion that his/her burn was self-inflicted was asked permission of interview by the researcher. The patients answered questions regarding their socio-demographic profile and motives and were asked if they had previous history of any psychiatric condition. A total of 34 patients admitted of burning themselves during that year while the official police records showed only 6 patients killed themselves using this method in the same time period. More than 88% of the patients had no previous attempt, only 6 patients were known psychiatric patients and in all the cases there was no plan. Half of the sample was of the 20-40 years' age group, females were slightly over represented (about 55% of the sample) and most of the males were single. About 55% of the sample were un employed and 44% of them were illiterate. Only 2 patients survived the burns eventually. Family problems were the most common precipitative factor (in more than 91% of the cases). There is poor registration of suicide numbers using self-burning at al Dewanyea city. Most of the cases had no previous attempts and had no history of mental illness and in all the cases the act was impulsive with no previous plan. Those who burn themselves are most commonly young, illiterate and unemployed. Men were mostly single while women were more commonly married. There was high mortality rate in the sample.

Keywords: suicide, self-burning, kerosene, official police records

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INTRODUCTION
Suicide can be defined as an intended self-inflicted act with a fatal outcome. \(^{(1)}\). Although the increased interest in suicidology is encouraged, our understanding of suicide is still not complete.

Suicide is now a major health problem around the world, accounting for approximately one million deaths per year \(^{(2)}\).

It is in fact the tenth leading cause of death worldwide \(^{(3)}\).

In spite of the limited data on non-fatal suicide attempts, it is estimated to be about 20-30 times more common than completed suicide \(^{(4)}\).

It is well established that the reporting of suicide deaths is far from accurate \(^{(5,6)}\).

Worldwide variations in suicide rates can be explained by many causes. Stigma due to socio-cultural factors or religious ideas may cause under-reporting of suicidal attempts or deaths \(^{(7)}\). For example, a nine to tenfold under-reporting is estimated in India. \(^{(8)}\).

There are considerable areas around the world from which no accurate suicide data are available, (e.g. western pacific region and the middle east countries) and so current numbers of suicide deaths and risk factors of suicide in these regions are obtained from individual research studies \(^{(7,9)}\).

**Methods of suicide:**

Globally most widely used methods include hanging, self-poisoning and jumping from a height, but preferred methods differ considerably by gender and country \(^{(10)}\).

Suicide by charcoal burning has appeared as a common method in Hong Kong \(^{(10)}\) may be due to media portrayal of suicide deaths of this method \(^{(11)}\). Liu found that the increased use of charcoal burning was not a replacement of this method over other methods but it caused an increase in the overall rates of suicide in these regions.

Ethno-cultural background of victims also affects the choice of suicide method. In the United Kingdom, South-Asian women seem to prefer self-immolation (self-burning). \(^{(12)}\).

**Socio-demographic risk factors:**

Suicide is generally more common in males but there are wide differences in the male: female ratio in different countries\(^{(13)}\).

Regarding the rates of suicide in different age groups, there are notable changes in the last few decades as there was an increment in suicide among young adults. Although there was a decline in the rates among 15-24 year olds in some countries \(^{(14)}\).

Generally, suicide is more common in the single, divorced or widowed \(^{(15)}\). So marriage may have a protective effect especially for women, but this observation depends on the socio-cultural factors \(^{(16)}\). In contrast to the international published results, Yeh and his colleagues found that young married women in Taiwan had a greater risk for suicide.
It is well documented that suicide is affected by economic factors. (Dodd and Henry, 2006) and especially unemployment was ascertained as a risk factor for suicide. (17).

The Iraqi data:

According to the Iraq national study of suicide, suicide rates in Iraq are lower than the rest of the world with almost equal male to female ratio and using self-burn as a method came in third as the most commonly used method (after hanging and fire arms) and most commonly affected age groups were the young (below 29 years old) (18)

Aims of the study:

1- To compare between numbers of victims of self-inflicted burn with the official police suicide statistics that is recorded each month in the city during 2018.

2- To identify the socio-demographic characteristics of the patients in addition to their past psychiatric history.

MATERIALS AND METHODS

This is a prospective cross-sectional study.

During 2018, any patient admitted to the burn centre at Al dewanyea city with a suspicion of self-inflicted burns was included in the study, so the inclusion criteria were the following:

1- Being diagnosed with T29 (which indicate that the burn was of 100% total body surface area according to the ICD10).

2- When the patient admits to the doctors or other health personals that their burns were self-inflicted.

3- Sometimes the smell of kerosene or when the patient and his/her family give conflicted stories about the cause of the burns.

Most patients don’t admit to the authorities that the incident was intentional because the Iraqi law have an act that punish any person who motivate suicide. So, most patients officially say that their burns were accidental rather than intentional to avoid arrest of their family members by the police.

Verbal consent was taken from patients and some patients declined to participate when they knew that the interviewer was a psychiatrist.

In addition to socio-demographic characteristics, patients were asked about their motives, previous attempts and the circumstances that precipitated the burning incident.

Due to the poor health condition of the patients, prolonged interviewing with thorough psychiatric evaluation was not possible but they were asked about previous history of mental illness.
The official suicide record of the city (which is recorded by the police) was obtained from the psychiatric unit in the general hospital (Al-Dewayea teaching hospital).

**RESULTS**

A total of 34 patients were identified to deliberately burn themselves during the study while the official records showed 27 suicide cases in general and only 6 cases using self-burn as a method that year.

Of these 34 patients only 4(11.76%) had history of a previous attempt which means that for 88.23% of them, this was their first time.

History of mental illness was recorded in only 6 patients (17.64%) (2 were schizophrenic, one alcoholic, 2 drug addicts and one mentally retarded) and in all cases there was no previous plan, so in 100% of the cases the act was impulsive.

The following table shows the socio-demographic characteristics:

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (years)</strong></td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>13 - 66</td>
</tr>
<tr>
<td>Mean ±SD</td>
<td>25.03 ±13.21</td>
</tr>
<tr>
<td>&lt; 20, n (%)</td>
<td>14 (41.2 %)</td>
</tr>
<tr>
<td>20 - 40, n (%)</td>
<td>17 (50.0 %)</td>
</tr>
<tr>
<td>&gt; 40, n (%)</td>
<td>3 (8.8 %)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15 (44.1 %)</td>
</tr>
<tr>
<td>Female</td>
<td>19 (55.9 %)</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>21 (61.8 %)</td>
</tr>
<tr>
<td>Married</td>
<td>12 (35.3 %)</td>
</tr>
<tr>
<td>Divorced</td>
<td>1 (2.9 %)</td>
</tr>
<tr>
<td><strong>Occupation</strong></td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>19 (55.9 %)</td>
</tr>
<tr>
<td>Self employed</td>
<td>5 (14.7 %)</td>
</tr>
<tr>
<td>Semiskilled</td>
<td>6 (17.6 %)</td>
</tr>
<tr>
<td>Student</td>
<td>4 (11.8 %)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>15 (44.1 %)</td>
</tr>
<tr>
<td>Primary</td>
<td>9 (26.5 %)</td>
</tr>
</tbody>
</table>
Also a result of our study, a statistically significant relation was found between marital status and gender of the sample, as shown in the table:

Table 2: Association between marital status and gender

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Total</th>
<th>Male</th>
<th>Female</th>
<th>(X^2)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 34)</td>
<td>(n = 15)</td>
<td>(n = 19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>21</td>
<td>14</td>
<td>7</td>
<td>11.353</td>
<td>0.003</td>
</tr>
<tr>
<td>Married</td>
<td>12</td>
<td>1</td>
<td>11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Only 2 patients survived and were eventually discharged, so the mortality rate in the sample was 94.11%.

Regarding the precipitating problem in 31 patients (91%) cited family problems (including marital disputes) as the precipitating factor, while in 2 patients it was related to academic problems (failure at school) and in one patient who was mentally retarded with previous attempt was unable to communicate the provocative factors.

DISCUSSION

When we compare the official police numbers of suicide which included only six suicides by self-burn with our study's finding of 34 (which is about 6 times higher) we conclude poor registration of cases and under-reporting. Hence the national Iraqi suicide study which depended on police records showed self-burning to be in third place as the most common method\(^{18}\). While in the study of Hanna and Abdulbaghi which was conducted in Kurdistan region of Iraq, self-burning was also the most common method\(^{19}\).

As we mentioned before suicide is a very stigmatizing event which may sabotage the whole family's reputation for generations. In addition in most of the cases there is fear from police arrest of close family members with the charge of motivation for the suicide which caused many patients to conceal the reality of their condition especially burns are more easily to be fabricated as accidental than hanging and firearms (which is mostly why these methods came first and second on official numbers) and self-burning is the easier method to commit suicide when we know that kerosene is present almost in every Iraqi home (used for heating and sometimes cooking), and it is in most cases readily accessible to all people living in the home which make it an ideal method especially for impulsive acts without previous planning.
Under-reporting is also found in other studies especially from the third world like Gajalakshmi in India who found a nine to tenfold under-reporting (8).

Most of the cases (more than 88%) had no previous attempt and this is consistent with Iraqi national suicide study which found the same in 82% of the sample while Gautheir et.al found that most patients attempted suicide before in Switzerland (18,20). This may be associated with the fact that all the patient had no previous plan, so being impulsive and using such an aggressive method with high fatality for the first time doesn’t really give chance for a second time.

Only small percentage had a history of previous psychiatric diagnosis which is not found in most studies like Mushin and Haddad who both found high percentage of patients with mental illness. This of course does not mean that most of the sample were normal it just means that there is poor awareness of mental illness in general which make most of people who may qualify as psychiatric patients just keep suffering without contacting health care systems for help and go on undiagnosed which is a very important problem in the Iraqi society who still ignores mental health (21,22).

When we discuss the demographic characteristics of the sample starting with the age variable, the mean age of the sample was about 25 years and half of them were from the 20–40 years age group which is similar to the findings of Haddad in Jordan and that of Syed Mohammad Tahir in Pakistan while Gautheir's study results showed the mean age to be about 40 years old and this may be explained that victims of suicide in the eastern countries tend to be younger in general and even being born to families of eastern origin make both using self-burning and committing suicide at a younger age a higher risk as was found by Tuck et.al in England (22-24).

When analyzing the gender and the marital status for association there was a statistically significant association between them which means that marriage can be considered a protective factor for men not for women. Although this finding is inconsistent with most of the published papers but the higher risk of married women was found by Yeh. Married women in the Iraqi society suffer from oppression and feeling of entrapment as many Iraqi families refuse divorce as a solution for failed marriage and most of the time the condition of divorced females is even worse than what they had to tolerate when they were married (16).

Of course the recognition of unemployment as a risk for suicide is well documented in many studies like Plat and Hawton and Hanna (17,19).

The distribution of the sample according to educational level show that slightly less than half were illiterate and this finding is confounded by the overall literacy level in the society.

Family problems (including marital feuds) were the main trigger for the act in the vast majority of the sample and this is a common finding in many studies like Syed Mohammad Tahir, Hanna and De Macedo in Brazil and this may be explained by the complex family ties in the conservative Iraqi society which comes with lots of challenges to any person with tendency for aggression even like in those cases when this aggression is targeted towards own self (19, 23, 25).
The high mortality rate reflects the high total body surface area of burn in these cases because most of them poured kerosene on themselves and then set fire with a lighter or a match and the high mortality is noticed in other studies like Haddad (22).

CONCLUSION

1- There is poor registration of numbers of suicide by self-burning at the official police records of Al-Dewaneah.

2- Most of the cases had no previous attempts and had no history of mental illness and in all the cases the act was impulsive with no previous plan.

3- Those who burn themselves are most commonly young, illiterate and unemployed. Men were mostly single while women were more commonly married.

4-There was high mortality rate in the sample.

ETHICAL CLEARANCE

The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

CONFLICT OF INTEREST

The authors declare that they have no conflict of interest.

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REFERENCES


