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Insight of suicide in Iraq: a coroner's report

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Abstract

Background Suicide is a serious public health problems worldwide. Although suicide rates in the eastern Medetranian region are lower than western countries, increasing incidences is reported. This study aims to explore the demographic, clinical characteristics, and associated variables of people died by suicide in Iraq through a limited retrospective sample symbolized as biopsy.

Methods The retrospective analysis included the electronic records of a hundred cases of suicide saved in the archives of the Medico-Legal Directory in Baghdad. Data were extracted from the legal investigation which included police investigations, family reports, and post-mortem reports. Simple descriptive statistical analyses of the selected data was conducted.

Results It estimated through this study that the crude rate of suicide was 1.75 per 100,000 population which is higher than 1.09/10,000, previously reported by the Iraq national study of suicide 2016. Most cases occurred in ≤ 29 years old, Muslims, city dwellers, and middle-class people aged 29 years or less. The prevalence of suicide was significantly associated with unemployment, good education, and income. The most common methods used were self-burning, gunshot, hanging, and jumping from heights. The reason for taking their own life was unknown for half of the sample. Depression was relatively common, while other mental disorders were of low rate or unrecognized. Family conflicts and environmental stressors were considered as motives.

Conclusions This study exemplifies suicide patterns where young age, female gender, and violent methods are represented more than before, reflecting the impact of environmental and personal stressors and may be related to violence and the post-conflict situation initiated by the 2003 war. Little is known about suicide architecture due to stigma and poor surveillance system. A multidisciplinary suicide prevention strategy is crucial to implement in Iraq's health service. Large-scale studies are called to cover the data gap.

Keywords Insight, Suicide, Report, Iraq, 2021

Introduction

Suicide is the intentional act of taking one's own life or fatal self-harm. Various internal psychological factors and outside circumstances influence it. Suicide affects every culture and community and has been recorded

throughout history. Major depressive disorders, bipolar, schizophrenia, alcohol, substance abuse, and a spectrum of personality disorders have all been causally connected to suicide and suicidality [1]. Despite its strong association with severe mental illness, and substance use, it can also occur without such antecedents due to an acute psychological state or distress, a response to external stressors, or political and philosophical causes [2]. The death by suicide of a loved one leaves their families and friends in shock and trauma. It has a social stigma and legal consequences, adding to the psychological burden and complicating the grief process. Suicide has been acknowledged as a significant public health problem in any society, irrespective of the rate of suicide, with calls

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for rigorous investigation and effective intervention and prevention. The global suicide map reveals vast and dynamic differences in rates, methods, and cultural influences within and across nations through time, space, and subgroups. Based on the latest World Health Organization (WHO) report, suicide is the second leading cause of death among people aged 10 to 34, the fourth leading cause among people aged 34 to 54, and the fifth leading cause among people aged 45 and older [3]. Approximately 703,000 people kill themselves annually, and 20 suicide attempts occur for every suicide [4]. Therefore, practical strategies to prevent or reduce suicide, such as restricting access to lethal methods of suicide and educating medical professionals to identify and treat depression, are necessary. The Iraq National Study of Suicide (INSS) revealed that the crude suicide rate was 1.09/10,000 population in 2016 [5]; moreover, the WHO stated that 590 people died from suicide and 1112 attempted suicide in Iraq in 2019, exceeding previous numbers of 422 and 519 reported in 2017 and 2018, respectively [6]. According to Khalid al-Muhana, spokesperson for the Iraqi interior ministry, 772 people died by suicide in Iraq in 2021, higher than the 663 reported in 2020; among them, 36.6% were below the age of 20 years, 55.9% were males, and 44.1% were females [7]. The WHO recommends that all organizations supporting mental health initiatives collaborate with communities to deliver quality mental health care. Traditional and social media campaigns to promote mental health are also required [5, 6].

Suicide is a nefarious deed that monotheistic religions forbid. Suicide may be more stigmatized and tabooed in Arab Muslim countries than in western countries and considered more shameful. The literature that is currently available on suicide in Iraq is scant and non-conclusive. In this study, new information on suicide is presented using a digital sample obtained from the records of the Medico-Legal Directory (MLD) in Baghdad 2021 (Fig. 1).

Method

This descriptive record-based study with an analytic element examined the data on suicide from the digital archive of the coroner's office within the (MLD) serving the 8,780,422 population of Baghdad [8]. In a once-weekly scheduled visit from September 1 to December 1, 2021, the research team led by the primary author accessed the records of all suicide cases reported within the last 6 months of 2021. They chose hundred consecutive cases out of 104, excluding the four most short forms. The coronel responsible team finalizes every case's electronic report by combining the police and mortuary records with collateral history from the deceased's family. The primary factors for this study were sociodemographic data, the technique employed, and the attributed



Fig. 1 Medico-Legal Directory (MLD) in Baghdad 2021

cause of suicide. In addition, the following data were extracted: age, gender, marital status, educational status, income, religion, residency, occupation, history of diseases, and method of suicide. The collected suicide cases were subjected to police investigations and postmortem examination. Only those who died by suicide and were below 10 years old were excluded. The authors designed a data collection form modified with permission from the suicide questionnaire from the (INSS).

Statistical analysis

A descriptive study was conducted. We list the percentage of everyone's age, sex, place of residence, marital status, level of education, religion, medical history, suicide method, and occupation. The association between suicides and the categorical variables was examined using a chi-square test. All analyses were performed in the IBM SPSS version. It was determined that the P value of <0.05 was statistically significant. The administration of the (MLD) provided formal and ethical permission with specific directions to keep the acquired data anonymous and use it exclusively for the assigned scientific purpose. The Baghdad Medical College conducted this study as one of its research initiatives. Following discussion and approval of the study protocol as one of the college's research projects, another formal letter was obtained from the Dean's office. Each case's final electronic record included police investigations and mortuary reports.

Results

Table 1 shows the studied sociodemographic characteristics where the highest percentage, 51.0%, was for the youngest age group (10–29 years), 38.0% for

Table 1 Socio-demographic variables and their association with suicide prevalence in the sample

Sociodemographic variables	N &%	Male	Female	Chi-square	P Value
Age (years)					
10-29	51	31	20	0.523	0.914
30-49	38	24	14		
50-69	8	4	4		
>69	3	2	1		
Gender					
Male	61				
Female	39				
Marital status					
Single	51	32	19	1.294	0.731
Married	33	19	14		
Divorced	8	4	4		
Widow	8	6	2		
Residency					
Baghdad city	94	57	37	0.086	0.769
Provinces	6	4	2		
Religion					
Muslim	98	57	35	0.442	0.506
Other	2	4	4		
Educational level					
Illiterate	8	2	6	7.986	0.046
Primary school	17	13	4		
Secondary school	28	20	8		
College & university	47	26	21		
Occupation					
Un employed	31	13	0	43.665	0.000
Students	32	17	15		
Government employee	18	11	7		
Retired	6	4	2		
Housewife	13	0	13		
Economic status					
Low (not enough for basic needs)	29	24	5 16	10.524	0.005

the age group (30–49 years), and 3.0% for the age group (>69 years). The median age of all cases was 29.0 years, the mode was 16, and the mean was 32.6. The subjects included 61.0% males and 39.0% females. 51.0% were single (unmarried), 33.0% were married, and 8.0% were divorced, widows, and widowers. 94.0% of the cases used to reside in Baghdad city, the capital, and 6.0% came from other governorates and provinces. Ninety-eight percent of the cases were Muslims. Eight percent were illiterate, and 17% had formal education, while 28% and 47% had secondary and college education. Regarding occupation, 31% were unemployed, 32% were students, 18% were government employees, 6% were retired, and 13% were homemakers. Regarding their economic status, 29% were not satisfied with their income (not enough for their basic needs), 40% were comfortable, and 31% had a good income, as reported by their families. Significant correlation between suicide, unemployment, good economic status, and higher educational level (secondary and college) had a *P* value of 0.000, 0.005, and 0.046, respectively. Figure 2 shows that 34% of the cases used self-burn, 24% gunshot, 18% hanging, 13% jumping from heights, and 7% self-poisoning drowning, vascular cut, and electric shock accounted for 1–2%. Regarding gender, 12% of males and 22% of females used self-burn. Nineteen percent of males and 5% of females used gunshots, 11% of males and 5% of females used hanging, and jumping from heights accounted for 11% of males, and 2% of females, 5% of males, and 2% of females were self-poisoned as shown in Table 2. Reported reasons for suicide were missed (unknown) in 47% of the cases. Among mental disorders, depression affected 17% of the cases, and others were 1–2%, while financial hardship and family conflicts affected 14% and 13%, respectively, as shown in Table 3.

Discussion

There is a need to update the 1.09/10000 population crude suicide rate denoted by the (INSS) [5]; however, this study could not perform such a task for technical and logistic reasons. This study’s findings mirror those of a nationwide survey and highlight suicide in young people as a particular issue where two-thirds of the sample died by suicide before 50, around half were 10–29 years old, and more than half were males. The gender differences may be attributed to the differences in risk factors such as social factors “sole responsibility for the financial and social support of their families;” access and use of more lethal methods such as firearms and kerosine; and higher rates of males in alcohol and substance abuse than that of females [5, 9]. Most cases involved single people living in Baghdad; life in the city is more complicated than in the countryside, potentially with higher levels of loneliness predisposing them to mental disorders and suicidal behavior [10]. According to Durkheim’s theory, suicide rates depend on societal-level factors rather than human mental states [11]. Due to the small sample and lack of any measure to assess the strength of religious belief before the act, Islam, the religion of 99% of Iraqi people [12], did not seem to impact the findings. This study found a significant association between suicide and high educational level. In most cases, however, the effect of education on suicide psychopathology could not be fully explored due to missing data, so this may be an artifact. There is a scarcity of population access to education in Iraq. Unexpectedly, there was a significant association between suicide and adequate income, which may be attributed to job-related problems; on the other hand, unemployment is a considerable risk factor for suicide, which is consistent with the national study and confirmed by many previous studies [13, 14]. According to one study by the University of Antwerp in Belgium, every 1% increase in unemployment increases suicide rates

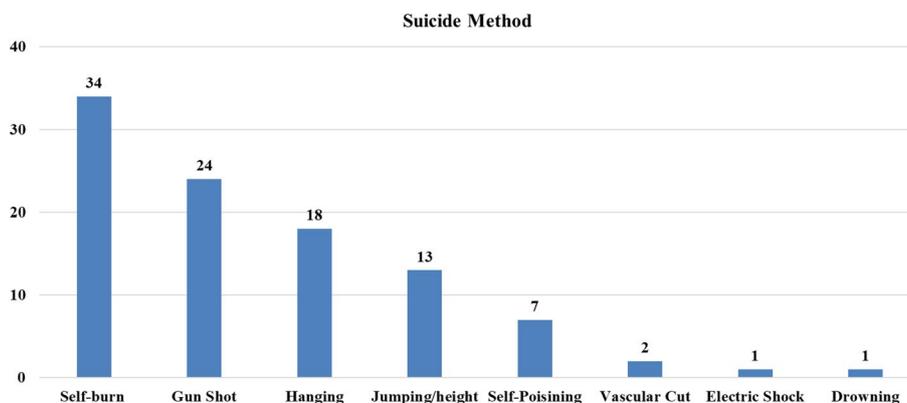


Fig. 2 Method used for suicide

Table 2 Suicide methods by gender

Suicide method	Male N&%	Female N&%	Total N&%	Chi-square	P Value
Self-burn	12	22	34	17.521	0.014
Gunshots	19	5	24		
Hanging	11	7	18		
Jump from height	11	2	13		
Self-poising	5	2	7		
Drowning	1	0	1		
Electric shock	1	0	1		
Vascular cut	1	1	2		

Table 3 Reported reasons for committing suicide

Reported reasons for suicide	N	%
Unknown	47	47
Depression	17	17
Psychosis	1	1
Bi-polar disorder	1	1
Personality disorder	2	2
Substance abuse	2	2
Response to family conflict	13	13
Financial hardship	14	14
Response to electronic blackmail	2	2
Having Covid-19	1	1
Total	100	100%

by 0.79% [15]. Much literature indicated the association between suicide and low levels of education and income; surprisingly, this study found the opposite, which may be explained by missing data and a small sample; more detailed national studies are needed to confirm such variations [16, 17].

This study found that self-burning, hanging, and gunshot were the most common methods of suicide,

similar to the (INSS) with jumping from heights significantly higher. In line with the results of numerous earlier research, self-burning was more prevalent in women due to the cultural roots superadded by the availability of household Kerosine [5, 9, 16, 18]. Unexpectedly, females shot themselves 5% of the time, which had never been reported in Iraq before, suggesting that firearms were inside the deceased’s houses and readily accessible. Additionally, hanging used by 7% of women was higher than anticipated based on previous studies indicating that females use more lethal methods [19, 20]. The fall of the Iraqi government on April 9, 2003, led to the breakdown of law and order in April 2003, and it became considerably simpler to obtain weapons in Iraq [21]. Due to the stigmatizing attitudes toward mental disorders in general and the social shame and legal concerns felt by the families of those who die by suicide, there is a significant issue in maintaining accurate file records. Half of the cases had missing information about the causes of suicide. Family conflicts and financial hardships should be taken seriously as issues to be addressed and controlled by mental health professionals, health authorities, and social experts [16, 18]. This study could help add updated data to the action plan issued by the Iraq MoH (Iraqi Strategy of Suicide Prevention). This strategy emphasized enhancing access to healthcare, increasing advocacy on mental health, and tackling the related stigma.

This study manifests the importance of the following measures to reduce suicide extent:

1. Enhance early detection of suicide risks in the emergency departments by providing psychiatric training to the working interns
2. Call for policies to restrict the availability of firearms
3. Education campaign about self-burn, access to kerosene, and other dangerous means

The post-conflict chaotic situation created by the US-led invasion and dismantling of Iraq's security forces in March 2003 led to continuous acts of violence and war-related atrocities. Such life-threatening conditions increase the severity of mental disorders, including PTSD, associated with subsequent suicide [2, 22]. In addition, many recent studies focused on the effect of the COVID-19 pandemic on mental health, in which the disease process itself, fear of complications or death, and the lockdown situation induce or worsen anxiety and depression, raising the possibility of suicide. However, some studies revealed stable suicide rates during the pandemic, although data from Iraq was not included [23]. Furthermore, the Islamic prohibition of suicide may act as a protective factor against suicide and suicidality in some instances. Still, it can increase the stigmatizing attitude toward suicide victims and their families. Also, cultural values and solid religious beliefs may protect against suicide in Arab Muslim countries, including Iraq [24].

Conclusion

This study introduces a significant profile of suicide cases through a limited sample that may reflect a growing problem in Iraq, especially among young people. The sociodemographic traits of the studied patients, methods, and reasons for suicide are consistent with some related earlier research in which violent means were frequently employed. This study recommends that the recording procedures of suicide in Iraq be improved and that comparable studies be conducted on a larger scale to cover the data gap and implement the Iraq Ministry of Health MoH's preventive strategy.

Limitations of the study

A small number of cases and missing data limit this study. Additionally, being unable to visit the deceased's families also depleted our knowledge about the personal and family history of mental disorders and substance abuse, in addition to the brief and ambiguous descriptions of family conflict or violence documented in the police reports. Finally, our attempts to collect a larger sample and conduct a more elaborated statistical analysis were not encouraged because staff sometimes acted as barriers to data collection, being overwhelmed by their workload.

Abbreviations

WHO	World Health Organization
MLD	Medico-Legal Directory
INSS	The Iraqi National Study of Suicide
MoH	Ministry of Health

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Authors' contributions

The primary author, "MS," designed, analyzed, and interpreted the collected data. The second author, and "AJ" performed further editing and language amendment. Finally, both authors read and approved the final manuscript.

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Availability of data and materials

We decided not to make the data available publicly as it would not add to the value of the findings.

Declarations

Ethics approval and consent to participate

The University of Baghdad College of Medicine's ethics and Research Committee approved the research protocol. The source of data was the case files without any identifying information. The picture of the (MLD) was copied from the general site of Google images with oral permission from its administration.

Consent for publication

The (MLD) administration approved the signed consent waiver, including the consent for publication.

Competing interests

The authors declare that they have no competing interests.

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